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THE
NEW AND COMPLETE
CHANNEL PILOT;
OR
Sailing Directions

FOR NAVIGATING THE
BRITISH CHANNEL
ON THE

English and French Coasts,
AS WELL AS ON THE
South West and West Coasts of Ireland;

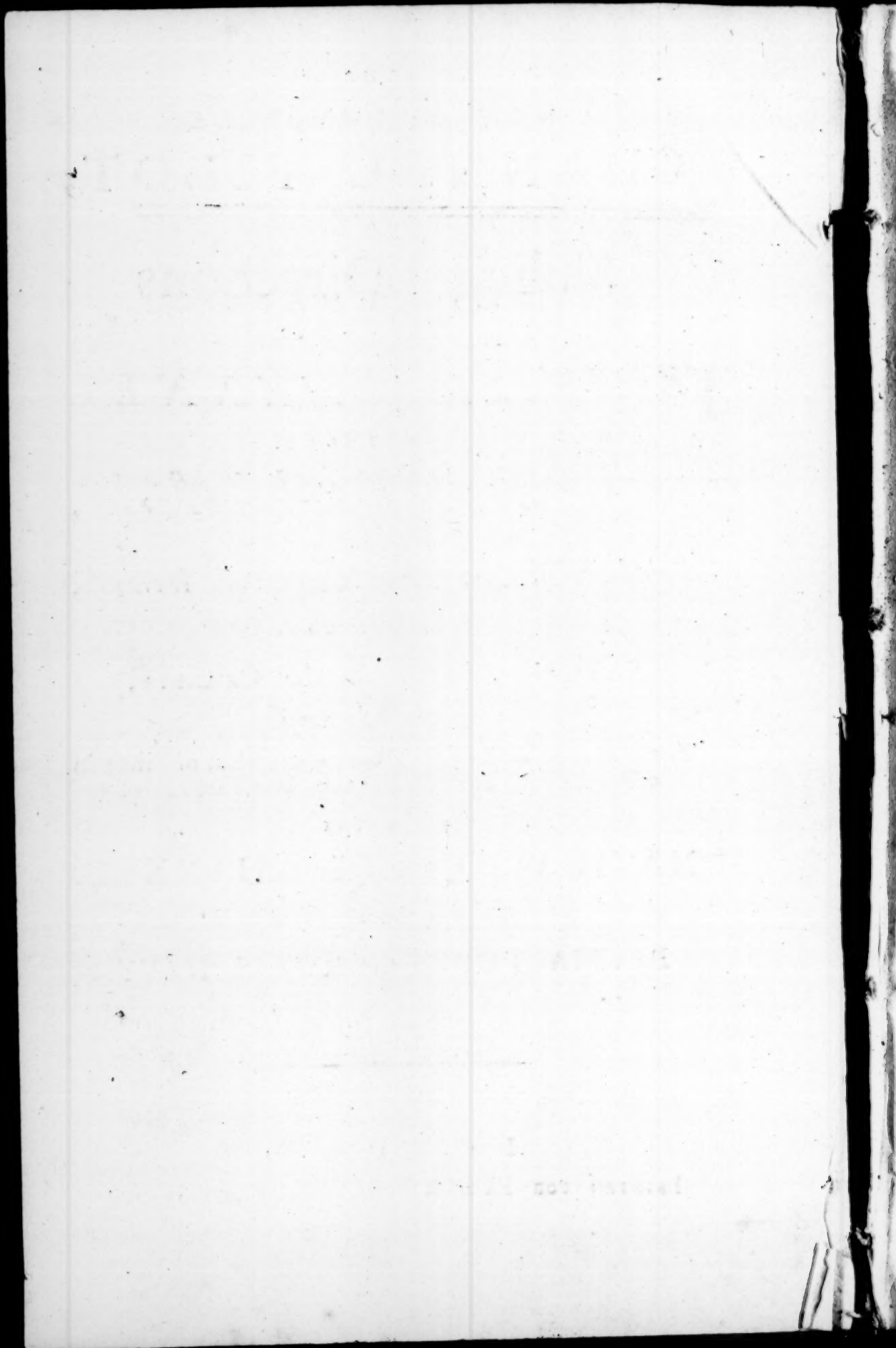
ADAPTED TO
SAYER'S CHARTS of that CHANNEL,
AND DIGESTED FROM
The Surveys, Remarks, Observations, &c. of Pilots in
different Ports, Coasters, and many others acquainted
WITH THE
NAVIGATION of the CHANNEL.

The whole carefully revised
By a MASTER in the ROYAL NAVY.

L O N D O N:

Sold by J. Haskett, Map & Sea Chartfeller N^o 13 Sweetings Alley, Royal Exchange, London.

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A D V E R T I S E M E N T.

THE following Directions are, according to their Title, carefully selected from the observations of several Masters in the Royal Navy, of Pilots in different ports, Coasters, and many others, *English* and *French*, long practised in the navigation of the Channel. These observations contain many novel things, and unknown to the generality of navigators; and having been compared with, and ascertained by, the numerous surveys of different parts of the British Channel, lately taken, either by us or by our neighbours, we may, without vanity, presume to say, That this CHANNEL PILOT will be found, not only the most useful, but also the most complete and accurate, collection of the kind hitherto published.

C 27 Nov. 1769.
As all the bearings and courses mentioned in this work, are laid down according to the true North, we shall beg leave, by way of Introduction, to quote here some remarks of Mr. *William Nichelson*, one of our most experienced seamen, and Master of his Majesty's ship the *Elizabeth*, from 1758, to 1764:

“ I have been informed, (says this gentleman) by
 “ persons of undoubted veracity, that they have known
 “ those who, having been intrusted with the command
 “ of ships of great consequence, have steered the course
 “ up the Channel by the draught of the Channel, with-
 “ out allowing the variation; whereby they have run
 “ into great danger, and narrowly escaped being lost.
 “ This is a thing which very much surprized me to
 “ hear, that any man who had been intrusted with the
 “ command of a ship, or had any thing to do with the
 “ navigation thereof, could be so ignorant, and void
 “ of reason. I hope there are no such ignorant *British*
 “ navigators: But lest there should, I beg leave to ac-
 “ quaint them, that the Channel-draughts are made
 “ without allowing for the variation, it being left to
 “ the navigator to allow the variation, as he shall, from
 “ time to time, find it to increase or decrease—for in-
 “ stance, by the draught of the Channel, the coast lies,
 “ or the course from the *Lizard* to the *Start*, to the *Isle*
 “ of *Wight* and to *Beachy Head*, is E. by N. and W. by
 “ S. therefore to allow the variation, which is at least
 “ 19 deg. 20 min. West, or $1\frac{3}{4}$ point (so said in 1764)
 “ shews a ship bound up Channel, must steer E. $\frac{3}{4}$ S. to
 “ make an E. N. E. course which is the along shore course
 “ up Channel, and W. $\frac{3}{4}$ N. in going down the Chan-
 “ nel. I hope this hint is so plain, that none can mis-
 “ take it; and that it will prevent any more blunders
 “ of the same kind, which may be attended with danger-
 “ ous

“ous consequences; though I never should have imagined a hint of this kind any wise necessary, had I not been told that there are people capable of making such mistakes.”

After these judicious remarks, Mr. *Nichelson* gives an useful account of the variation in the channel for the year 1764 only. But our object requires that we should be more extensive on that head.

The oldest observation known, on the variation of the compass, at *London*, was made in the year 1580*, where it was then found at *Limehouse* to be one point Easterly.

In the years 1657, and 1666, at *London* and part of the Channel, the Magnetic Axis and True Axis were in one direction, that is, there was no variation; and ever since it has been increasing West. The advance, according to Mr. *Mountaine*, (as it appears from Captain *Collins's* Observations) was near 7 deg. in 30 years, or one deg. of variation for every 5 years and a half, which rule,

* From a scarce book entitled the *New Attractive*, a discourse of the declining or dipping needle, first found by *Robert Norman*, Hydrographer, dedicated to *Willyam Borough*, Comptroller of her Majesty's Navy, printed by *Thomas Kyngston*, anno, 1581, the following observations were communicated by *John Hyde*, Esq. viz. In page 15, he says, “North Pole dips under the horizon, 71 deg. 50 min.” — Annexed is, Upon the Variation of the Compass, by *W. B.* In the 3d chapter he shews the variation at *Limehouse*, the 16th of October, 1580, in lat. 31 deg. 32 min. North, was one point Easterly.

pursues Mr. *Mountaine*, will be found pretty exact for the common use of Navigators.

This rule however, does not seem to hold good, at least for the last 30 years; and we should think, that between 5 and 6 deg. in 30 years would be nearer the mark. Mr. *Arnold* makes it still less: "I have given," says he, "in the book entitled *The Merchant and Seaman's Guardian*, all the courses and bearings agreeable to the Magnetic Meridian in the Channel, in the year 1777, (*which Meridian, by the by, is not determined in the work*) by which means, should this little book be examined twenty or thirty years hence, (which I flatter myself it will) *the variation from it will not exceed 3 or 4 degrees.*"

A General

General TABLE of the progressive Observations, made since the year 1580, at LONDON, GREENWICH, and in the CHANNEL, on the variation of the Needle.

Years.	Names of Places.	Observers.	VAR. E.	
			Deg.	Min.
1580	Near London at Limehouse	Willyam Borough.	11	5
1599 & 1657*	Near London at Limehouse	Wright's Tables.	11	00
	About Portland		11	15
	In St. Ive's Church-Yard, Cornwall		10	00
	From Cape Lizard S. by W. 8 leagues		8	00
	At Scilly		12	50
1612.	At London	Mr. Gunter	10	00
1634.	At London	Mr. Gellibrand	6	00
1657.	At London	Mr. Bond,	4	05
1666.	At London	Mr. Mountaine.	No var.	
			VAR. W.	
1672.	At London	Dr. Halley	2	30
1692.			6	00
1693.	At Greenwich	Capt. Gren. Collins	6	30
1701.	In the Channel		7	40
1722.	At London	Mr. Graham	14	00
1733.				
1730.	In latitude 50 deg. 9 min. N. long 7 deg. 20 min. West from London, which is a little to the West of Scilly	Capt. Middleton	15	00
	In lat. 49 deg. 38 min. N. long 6 deg. 58 min. West from London		15	00
	In lat. 50 deg. N. long. West from London 00 deg. 30 min.			
1748.	In lat. 48 deg. 45 min. N. and about the Meridian of Scilly	The French	15	40
1749, Jan. 7.	At Greenwich	Dr. Bradley	16	30
1753, June 24.			17	22 $\frac{1}{2}$
1751.	In Mount's Bay, Cornwall	Dion. Williams, &c	17	25
1752, Aug. 28.	At Greenwich	Dr. Bradley	18	00
1754, June 25.			17	55
1756, Nov. 16.			18	03
1756.	In the Channel	Mr. Mountaine about	18	33
			18	00

* These observations seem to have been copied from *Borough's*; First in 1599, when *Wright's Tables* were first published, and then in 1657, when the second edition was printed.

Years,

OBSERVATIONS, &c.

Years.	Names of Places.	Observers.	VAR. W Deg. Min.
1757, Aug. 5.	At Greenwich - - - - -	Dr. Bradley -	18 30 ²⁵
1757, and some years before.	At the Land's End - - - - -	—	18 15
1757 in Oct.	At Carlew House on one of the branches of Falmouth Harbour, (with a needle of 10 inches,) - - - - -	—	19 12
1762. - -	At the mouth of the Thames, - - -	Mr. Dixon, &c.	18 00
	In lat. 49 deg. 20 min. N. and long. 10 deg. 15 min. West from London,	from	19 to 15
	In lat. 49 deg. 25 min. and long. 9 deg. 38 min. - - - - -	- - -	19 30
	In lat. 49 deg. to 49 deg. 30 min. and long. 8 deg. 15 min. - - -	- - -	19 51
	In lat. 49 deg. 10 min. to 49 deg. 25 min. N. long. 7 deg. 6 min. - -	Mr. Nichelson,	20 7
1764, in July.	In lat. 49 deg. 25 min. N. 8 leagues to the Eastward of Scilly - - -	on board the <i>Elizabeth</i>	20 30
	In lat. 49 deg. 37 min. N. 9 leagues S. E. by S. from the Lizard - - -	man of war.	21 00
	In lat. 49 deg. 53 min. N. 10 leagues W. S. W. $\frac{1}{2}$ S. from the Start - -	- - -	21 02
	Seven leagues S. W. $\frac{1}{2}$ W. from the high land of St. Alban's* - - -	- - -	20 06
	In lat. 50 deg. 20 min. N. long. 00 deg. 18 min. West from London -	- - -	19 20
1768. - -	In lat. 49 deg. 36 min. N. longitude West from London, 12 deg. 44 min.	The French -	20 7
	In lat. 49 deg. 36 min. N. long. 9 deg. 17 min. - - - - -	- - -	- - -
	In lat. 49 deg. 00 min. long. 7 deg. 50 min. - - - - -	- - -	- - -
1771, in Aug. and Sept.	In lat. 49 deg. 00 min. long. 6 deg. 31 min. - - - - -	Mr. De Brahm	18 30 ¹
	In lat. 49 deg. 15 min. long. 6 deg. 58 min. - - - - -	- - -	- - -
	In lat. 49 deg. 5 min. long. 5 deg. 1 min. - - - - -	- - -	- - -

* "By the above observations," says Mr. Nichelson, "you see the quick increase of the variation coming into the *English* Channel; so that there is no place in the world where the variation is a sure guide of your approach towards land, provided you have a good observation of latitude. You may also observe, that the highest variation in the Channel is off the *Lizard*, and that it decreases as you run farther up."

† If Mr. De Brahm's observations are to be depended on, they shew a decrease of variation in those parts since 1764.

OBSERVATIONS, &c.

Years.	Names of Places.	Observers.	VAR. W.	
			deg.	Min.
1772.	At <i>London</i> - - - - -	_____	18	3
1773.	At <i>London</i> - - - - -	_____	19	00†
1774.	At the mouth of the <i>Thames</i> - - -	Mr. <i>Mackenzie</i> .	21	35
1775.	{ In lat. 49 deg. 40 m. Meridan of } <i>London</i> - - - - - }	The <i>French</i> . -	20	00
1777.	At the mouth of the <i>Thames</i> - - -	Mr. <i>Arnold</i> . -	21	41
1777.	{ Entrance of the Channel - - - } { Between <i>Portland</i> and <i>Cape La Hague</i> }	about	21	24
1778.	Between the same - - - - -	The <i>French</i> . -	20	00
1785.	{ At the mouth of the <i>Thames</i> (in the } <i>Swin</i>) - - - - - }	{ Mr. <i>Burn</i> , Master in the Royal Navy }	23	00
1786.	{ At the mouth of the <i>Thames</i> (in the } <i>Swale</i>) - - - - - }	{ Mr. <i>Stephenson</i> , Master in the Royal Navy. }	23	00
_____	At <i>Dunge Nefs</i> - - - - -	_____	23	00
1788.	At <i>Spithead</i> - - - - -	_____	23	45

We must conclude by observing, That nothing is yet known with precision of the laws of variation: The form of the needle, its length, and the manner in which it is made, have a remarkable influence on the variation. The first step to be taken, to draw some advantage from the observations, which they are multiplying every day, is, that all the learned observers in *Europe* should agree to adopt one particular form of needle; as they have agreed to graduate the thermometers, which have given the means of comparing all the observations — See the Memoir presented in 1775, to the *Royal Academy of Sciences*, by Mr. *Wandfwinden*, Professor of Philosophy at *Franker*.

* In some places in the Channel, it was found to be 23 deg. 00 min. W.

† Only 18 deg. 00 min. according to Mr. *Mountain*.

‡ The same as in 1774, which induces us to believe that Mr. *Mackenzie*'s observation has been employed by Mr. *Arnold*.

b

A TABLE

A TABLE of the flowing of the tides along the British Coast, in the Channel, on the full and change days of the Moon.

Names of Places.	Hour.	Min.	Rise of the water.	
In the Downs, by the Shore -	10	30	16 feet, common tides.	
In the Road, and off the SOUTH FORELAND. }	2	15		
DOVER ROAD - - - - -	11	6		
DOVER PIER - - - - -	11	16	24 feet, at spring tides, } At the 15 feet, at neap tides. } Nels.	
FOLKSTONE - - - - -	10	51		
DUNGE NESS - - - - -	10	36		
ENTRANCE OF RYE HARBOUR	10	51	About 9 feet, at spring tides.	
In RYE HARBOUR - - -	10	36		
HASTINGS - - - - -	10	16		
BEACHY HEAD, SEAFORD, and NEWHAVEN - - - - -	10	6	About 9 feet, at spring tides.	
BRIGHTELMSTONE - - -	9	21		
NEW SHOREHAM, and ARUNDEL THE PARK - - - - -	9	30		
<i>Here the tide of flood flows 4 hours and $\frac{1}{2}$, and the ebb $7\frac{1}{2}$.</i>				
SELSEY BILL - - - - -	9	35	18 feet, at spring tides, 12, at neap tides.	
SELSEY HARBOUR, & along Shore	11	15		
The SEA OWERS - - - - -	9	36	15 feet, at spring tides, 10 feet, at neap tides.	
<i>Here the tide sets 8 hours to the west, for St. Helen's Road, which period includes the whole ebb, and the last two hours of flood.</i>				
LOOE STREAM - - - - -	9	36		
<i>Here the flood sets E. by N. and the ebb W. by S.</i>				
ST. HELEN'S - - - - -	11	45	18 feet, at spring tides, 21, at neap tides.	
<i>Here, as well as at Spithead, it is half flood before the tide begins to set in.</i>				
SPLITHEAD - - - - -	9	30		
<i>When it is high water here, it is only about half flood in Portsmouth Harbour.</i>				
PORTSMOUTH HARBOUR -	11	36		
CHICHESTER and LANGSTONE HARBOURS - - - - -	11	30		
SOUTHAMPTON RIVER - -	11	45		

A TABLE of the flowing of the tides along the British Coast, in the Channel, on the full and change days of the Moon.

Names of Places.	Hours.	Min.	Rise of the water.
BEAULEY RIVER - - - -	11	20	} 15 feet, at spring tides. 10 feet, at neap tides. 12 and 8 feet.
WEST COWES ROAD - - -	10	15	
YARMOUTH - - - - -	} 9	30	
HURST CASTLE - - - - -			
THE NEEDLES - - - - -	} 8	56	
CULVER CLIFF - - - - -			
DUNNOSE - - - - -	} 9	00	} 6 feet, at spring tides, 4 feet, at neap tides.
CHRISTCHURCH HARBOUR -			
POOL HARBOUR - - - -	7	30	
PORTLAND ROAD - - - -	9	15	
PORTLAND RACE - - - -	6	45	} 10 feet, at spring tides.
Within the SHAMBLES - -	7	5	
KING'S LYME - - - - -	6	25	
EXMOUTH BAR - - - - -	7	15	
TOPSHAM - - - - -	} 6	10	
HOPE'S NOSE - - - - -			
BERRY HEAD - - - - -	} 5	55	
TORBAY - - - - -			
DARTMOUTH HARBOUR -	6	3	
START POINT - - - - -	8	35	
START BAY - - - - -	} 5	55	
Off The PRAULE POINT - -			
SALCOMBE HARBOUR - -	} 5	55	
BOLT HEAD - - - - -			
RIGBURY HEAD - - - - -	6	5	
PLYMOUTH SOUND, HAMOAZE, and CATWATER - - - -	5	50	} 18 and 20 feet, at spring tides, 14 and 20 feet, at neap tides.
EDDYSTONE - - - - -	5	45	
FALMOUTH - - - - -	5	15	
Off the LIZARD - - - - -	4	55	
MOUNT'S BAY - - - - -	4	39	
The WOLF ROCK - - - - -	5	10	
Off the LAND'S END - - -			

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DIRECTIONS

D I R E C T I O N S
F O R T H E
E N G L I S H C O A S T,
B E T W E E N T H E
N O R E L I G H T S, O R F O R D N E S S, and the
D O W N S.

C H A P. I.

*Between the Nore Lights and the North Fore-
land, through the SOUTH CHANNEL.*

S E C T. I. *From the Nore Lights to the West and
East Buoys of the Spaniard—Spile Buoy—Five
Fathoms Channel—First Deep, &c.*

BETWEEN the N O R E L I G H T S and the *Buoy of the Spile*, the
course is E. northerly, about 7 miles, with 7, 8, 9, and
10 fathoms all the way. The leading mark out into the best
water, between that Buoy and the *Land's End*, is *Moufe Hole Church*,
opening and shutting of the east side end of *Sheppy*. When you
are athwart of the *Spile Buoy*, you have two hills in the country,
like two paps, over two houses on *Shell Nefs*; the *Land's End* bearing
then S. W. by S. and *Minster Church* in the *Swamp*.

In turning between the *CANT* (the bank along *Sheppy*) and *Shoebury Ness*, (on the *Essex* shore) stand towards the *Cant* into 9 or 10 fathoms; towards the north shore into 10 or 11; and towards the *Warp*, into 5, 6, or 7 fathoms, according as the winds and tides are; you will have about 12 feet a-cross the *Cant* at low water, and when you fall off that bank, you deepen your water immediately to 10, 11, and 12 fathoms; but a great deal of this depends upon wind and tide. The thwart mark for the *Nore* is *Minster Church* on a *Hedge-Row*, bearing S. S. W. or *Prittlewell Steeple* on two single trees. Come no nearer the *Nore* than 6 or 7 fathoms; nor nearer the *Middle* than 7 or 8.

The course between the *Nore* and the *Upper Buoy of the River Middle* is W. N. W. and E. S. E. observing the tide and wind; and the mark for the said Buoy is *Leigh Church*, (entering the marsh land) bearing W. N. W. or a *Cross Hedge-row* in one just to the eastward of *Leigh*. The thwart mark for the *Chapman* is *Hadleigh Church* and *Castle* in one: or *Hadleigh Castle* on with the middle of a remarkable square field: the long mark is *Fobben Church* on with the *Lower Marsh House* on *Canvey Island*. You must stand no nearer the *CHAPMAN* than 8 or 9 fathoms, nor nearer to the shore than 7 or 8. Your leading mark, to go clear of *BLYTHE SAND*, which is sometimes dry at low water, is *East Tilbury Church* open 2 or 3 sails breadth of the *Hope Point*; and when you are right athwart of it, *Howe Church* will be just on with the high land: stand no nearer *Hole Haven* than 10 or 12 fathoms.

Above a mile and a half S. E. by S. from the *Spile Buoy*, lies the *West Buoy* of the *SPANIARD*. These two Buoys mark the west end of *FIVE FATHOMS CHANNEL*: it extends 4 miles E. by N. and W. by S. between the *Spaniard Sand* to the south, and the *RED SAND* to the north. The course is E. by N. or E. N. E. and W. by S. or W. S. W. according to the wind and tide; but you must observe that the flood sets strong over the *Spaniard*. The leading mark through this Channel, in coming down, is the body of *Minster Church* just open, which will bring you nearest to the *Spaniard*, and you will have 3, $3\frac{1}{2}$, and 4 fathoms water; but in working through, you must stand no farther on either side, than just to shoaling your water. Near the west end of the Channel, on the north side, lies a small bank, that will pick up a ship at low water; it is called the *GILMAN*, and has no more than 8 or 9 feet water: a *Red Buoy* is placed on the east end of it. To avoid this shoal, you are to keep *St Nicholas's Church* open, either side of the *Reculvers*; and with this mark open to the westward, you are above it. The best water is between the *G. lman*, and the *Spaniard West Buoy*.

At the east end of *Five Fathoms Channel*, and south of the eastern edge of the *Red Sand*, you come to the *FIRST DEEPS* in which to anchor, the bearings and depth of water are, the *Spaniard East Buoy* from S. by W. to S. S. W. 6 or 7 fathoms, 4 and $3\frac{1}{2}$ at low water, and about a mile off; or you may anchor a-breast of the Buoy in 3 fathoms.

The marks for the *Spaniard East Buoy*, which lies 4 miles E. by W. from the *West Buoy*, are a large tree, called *Hickmay Tree* on *Sheppy Island*, just open of *Mouse Hole*, S. W. and St. *Nicholas's Church* in the *Gore*, upon a house or barn, just open to the eastward of the *Reculvers* S. E. $\frac{1}{4}$ S or the *Reculvers* nearly S. E. by S. To go clear of the said Buoy you must keep *Minster Church* just open of the west high land of *Sheppy*; and when you are athwart of the same, the *Land's End*, or east end of *Sheppy*, will be W. S. W. or the body of *Minster Church* appearing.

S E C T. II. *From the Spaniard East Buoy across the Flats—the Narrows—Old Channel—Horfe-shoe Hole—Buoys of the Spell and Last—Wool-pack, &c.*

The course across the *FLATS* from the *Spaniard East Buoy*, to the *West Buoy* of the *Spell*, is S. E. $\frac{1}{2}$ E. and N. W. $\frac{1}{2}$ W. about 5 miles and $\frac{1}{2}$, with 10, 12, and 14 feet at low water, all the way. The *NARROWS*, or *NEW CHANNEL*, is betwixt the *Spell Bank* to the northward, and part of the *Last Bank* to the southward. The *OLD CHANNEL* lies betwixt the east end of the *Spell Bank*, and the west end of the *WOOLPACK BANK*.

The *SPELL* is a narrow bank about $\frac{1}{3}$ of a mile in length, with only 2 feet water on it, and 2 fathoms close to; it had two Buoys, (both white) one upon each end, and bearing from each other, W. S. W. $\frac{1}{2}$ S. and E. N. E. $\frac{1}{2}$ N. but now there is only one Buoy left on the west end. The *West Buoy* lies in 8 or 9 feet at low water; its marks are the west part of *Bishopston* on a bight nearly South, and the east end of *Lower Hale Grove* on a boat-house S. E. by E. $\frac{3}{4}$ E. The *East Buoy* lied in 6 feet water, having for its long mark, St. *Peter's Church* upon a swamp, on the east cliff of *Westgate Bay*, E. $\frac{3}{4}$ S. The thwart mark was Lord *Guildford's Belvidere* at *Waldershare*, on the west corner of *Reculver Church Yard*; or a mill on a grove of trees to the westward of the *Reculvers*.

The *LAST*, which forms the south side of the *Narrows*, is about a mile and a quarter in length, and has only 3 feet water, but close to it, almost 8 feet: it is indicated by three Black Buoys, viz. the *West*, the *Elbow*, and the *East*. The *West Buoy* lies in 2 fathoms

water, about $\frac{1}{4}$ of a mile South eastward of the *West Buoy* of the *Spell*; betwixt both is the west entrance of the *NARROWS*: a single Tree to the westward of *Bishopston*, on a gap in the cliff, and *Mount-pleasant* upon the westernmost grove of trees in the *Gore*, are the marks for this Buoy. E. N. E. about $\frac{3}{4}$ of a mile from it, and E. near a mile from the *West Buoy* of the *Spell*, lies

The *Elbow Buoy*, in 10 or 11 feet at low water, a cable's length from the sand, whose thwart mark is pretty near the same as for the *East Buoy* of the *Spell*.

The *East Buoy* shall be described in the next Section.

The *Buoy* of the *Woolpack*, lies at the west end of the *WOOLPACK SAND*, which dries at spring tides, and extends a mile in length from E. to W. This Buoy is above 1 mile N. W. of the *East Buoy* of the *Last*, and W. by S. about a cable's length from the last Buoy of the *Spell*; it is close to the sand; its long mark is *St. Peter Church* on the east cliff of *Westgate Bay*, or nearly on with the easternmost house in *Galeing's*, bearing E. S. E. and the thwart mark is *Chislet Mill* on *George's Farm*. This Buoy, and the *East Buoy* of the *Spell* lying in 9 feet water, a cable's length W. N. W. $\frac{1}{2}$ N. from the *Woolpack* make the *OLD CHANNEL*, in which there is not above 6 or 8 feet, at low water. It is most commonly used, being very short (not much above a cable's length) and the course through it, is W. by N. and E. by S. nearly, but the *NARROWS*, or *NEW CHANNEL*, has more room, being about $\frac{1}{2}$ a mile broad, with 3 fathoms water, in the middle on each side, and about 2 fathoms near the sand. The course through the *Narrows* is W. or W. by S. and E. or E. by N. according to the wind and tide; the long mark for the same being the 3 *Copperas Houses* in the gully on the *Red Cliff*. You leave the *Spell* to the northward of you, and haul round the Buoy upon its west end, whose leading mark is mentioned above; but you must not leave it too far to the eastward, lest you should get upon the *CROSS BANKS*, which lie thwart the *Channel*, about $\frac{1}{4}$ of a mile W. S. W. from the *West Buoy* of the *Spell*, and within less than a cable's length of the *West Buoy* of the *Last*; they have not above 5 or 6 feet on, at low water.

The course from the *Narrows* and the *Old Channel* (which is pretty near the same) to the *Spaniard East Buoy*, is 5 or 6 miles W. N. W. N. W. and N. W. by W. or N. W. by N. according to the wind, and the velocity of the tide, which runs towards *Sheppy*. Upon the *FLATS* you will have 9, 10, 12, or 14 feet at low water: observe that it flows here, full and change N. and S. according to the winds. The flood sets W. or W. by S. the ebb, E. or E. by North. and up and down 3 fathoms. In working over to the eastward you must stand till *Minster Mill* is on the east end of *St. Nicholas's Wood*; and to the westward, till *St. Nicholas's* opens to the eastward of the *Reculvers*. But if you cannot get into the *First Deeps*, you must go back into the *Horseshoe Hole*.

The best anchorage in *HORSESHOE HOLE* is, *St. Peter's Church* bearing S. E. and on with the middle of *Marsh Bay*; the *East Buoy*

of the *Spell* in one with the *Reculvers*, and *St. Nicholas's Mill* to the westward of *Gore Wood*; you have 3 or 4 fathoms at low water, and 6 or 7 at high water, gravelly bottom, and will be half a mile from the *Woolpack Sand*.

SECT. III. *The SOUTH CHANNEL—Searn Buoy, and East Buoy of the Last—the Gore—Hook of Margate Sand—Cliff End—West Gate and Margate Roads, &c,*

The *SOUTH CHANNEL* lies between *Margate*, the *Searn*, and the *Woolpack Sands* on the north; the *Last* and *Horfe Sand* on the west; and the *Kentish* coast on the south. Its length, between the *Foreness* and the *Old Channel*, or *Narrows*, is about 9 miles, and it is generally 2 miles wide; but some banks lying in it, especially at the west end, they render the passage narrower in several places.

The *East Buoy* of the *Last*, and the *Searn Buoy*, with the *Buoy* of the *Woolpack* (described in the preceding section) lie at the north-west end of the *South Channel*.

The *East Buoy* of the *Last* is in 2 fathoms at low water; it bears from the *Elbow Buoy* E. by S. $\frac{3}{4}$ S. above a mile, and the same distance from the *Buoy* of the *Woolpack*, between S. E. by E. and S. E. Its mark is *Chislet Mill*, just open to the eastward of the *Reculvers*.

The *Searn Buoy* lies in 9 or 10 feet water, N. N. E. half a mile from the *East Buoy* of the *Last*: it is placed near the west end of the *SEARN SWATCH*, on the south side. The long mark of this *Buoy* is *St. Peter's Church* on the east end of *Westgate Bay*; and the thwart mark is *Chislet Mill* on a barn just open to the eastward of the *Reculvers*. From the middle of the east end of the *Narrows*, to the Mid-channel between the two buoys, where you have 3 fathoms water, the course is E. by S. 1 mile $\frac{1}{4}$. The thwart mark for the two buoys, which is pretty near the same, is also the best to run through the *Searn Swatch*, where you will have not less than 6 feet, and in some places, 2 and 3 fathoms water.

From the Mid-channel, between the two Buoys, E. by S. $\frac{1}{2}$ S. above 2 miles, lies *HOOK SPIT*, or the *HOOK OF MARGATE SAND*, a narrow bank, extending about a mile from the sand, and on which there is scarce 6 feet water, with a buoy placed in that depth. The mark for it is the *North Down* on *Noyland Mill*, or *St. Peter's Church* on the left side of *Westgate Bay*; and *Moxton Mill*, (called also *Gore Mill*) on a single tree at the west end of *Lower Hale Grove*; or *Birchington Steeple* S. E.

West from the *Hook Spit*, about a mile, and E. by S. $\frac{1}{2}$ S. one and a half from the *East Buoy* of the *Last*, lies the *GORE BANK*, in length about

about $\frac{1}{2}$ a mile, S. E. by E. and N. W. by W. not a cable's length in breadth. On this bank is 8 feet, within it, 4 fathoms water. The mark for the west end is *Monkton Mill*, open to the west of *Upper Hale Grove*; and for the east end, *Monkton Mill* on the east end of the said *Grove*.

Between the *Gore Bank* and the *East Buoy* of the *Last*, in the same direction, and about $\frac{1}{4}$ of a mile to the west of the bank, lie the *GORE PATCHES*, two small shoals, having 8 or 9 feet over them. There is a passage between them and the *Gore Bank*, whose mark is the *Searn Buoy*, kept N. N. W. nearly.

The *GORE* is to the South of the *Gore Bank*, and above a mile W. by S. $\frac{1}{2}$ S from the *Hook Spit*. The best anchorage there, is when *Monkton Mill* appears any where, between the west side of *Lower Hale Grove*; and when *St. Peter's Church* is on the house in *Westgate Bay*, bearing near S. E. by E. then you will have 5 fathoms, good holding ground: or drop anchor, when *Monkton Mill* is about a sail's breadth westward of the west end of *Upper Hale Grove*, then bearing S. S. E. $\frac{1}{2}$ S. and when *St. Peters Church* is just open of the barn in *Westgate Bay*, you will then have 4 fathoms, good ground.

Two miles and a half to the westward of the *Gore*, and about one S. W. $\frac{1}{2}$ W. from the *East Buoy* of the *Last*, lies the *HORSE*, a narrow bank near a mile in length, whose eastern part dries at low water, spring tides, while the western part has 6 feet water over it. The long mark to go clear of this bank, is *St. Peters Church* just open to the eastward of the barn in *Westgate Bay*: the thwart mark is *Chislet Mill* just open, to the east end of the *Reculvers*.

The *RECVLVERS SAND*, about 1 mile $\frac{1}{2}$ to the eastward of the *Horse*, and near a mile from the shore, is $\frac{1}{2}$ a mile long from E. S. E. to W. N. W. about a cable's length broad, and dries at spring tides.

When you are come to the length of the *Hook Spit* in sailing down, you must steer in for the land, in order to avoid *CLIFF END SHOAL*, called also *MIDDLE GROUND*, which is the easternmost bank, and in the middle of the channel: it lies E. N. E. and W. N. W. in length about a mile; is very narrow, and has only 9 feet on the east end at low water, 12 or 14 every where else, and round it 3 and 4 fathoms. The thwart mark for the east end, is *Birchington Church* bearing S. S. W. you steer S. E. by S. till *Bisbopton* comes open to the south of *George's Farm*, (southward of *Reculvers*) then steering away E. N. E. $\frac{1}{2}$ E. it will carry you quite clear of the banks. In this channel, which is near a mile $\frac{1}{2}$ long, you will have from 7 or 8 fathoms, at the lower end, and from 3 $\frac{1}{2}$, or 4, at the upper end.

In turning up from *Cliff End Shoal* to the Buoys, the leading mark is *St. Peter's Church* in the middle of *Westgate Bay*. The turning marks are *St. Peter's Church* from the *East Cliff End* to the barn, and from the barn to the *East Cliff End*; or *St. Peter's Church* from side to side of *Westgate Bay*. If you are in a ship of 15 or 16 feet water, you must stay till half tide, before you weigh, on account of the shoals

and knows already mentioned. The course to the Buoys is W. N. W. as the wind and tide will permit.

The course between the east end of *Cliff End Shoal* and *Foreness*, is E. N. E. and W. S. W. above 5 miles. In turning up or down from the *Narrows* to the *Long Nose*, come no nearer to the main than 3 or 4 fathoms, and no nearer to *Margate Sand* than 3 fathoms near the *Hook Spit*, and 5 fathoms eastward; nor no nearer to the *Long Nose* than 6 fathoms. In this part of the Channel are *Westgate Road*, and *Margate Road*.

MARGATE ROAD is about 2 miles N. by E. from *Margate*. To anchor there, you must bring *Margate Church* and *Mill* in one, and the *Reculvers* on with a grove of trees for the long mark. You have likewise good anchorage when the Pier bears S. by W. about 2 miles, and the *North Foreland Light House* S. E. or *St Peter's Church* S. S. E. and *Minster Mill* on *Noyland Mill*. You anchor in 7, 8, or 9 fathoms, gravelly ground.—The leading mark from *Margate Road* to the *Hook Spit*, or to the *Cliff End Shoal*, is a grove of trees open a little to the southward of the *Reculvers*.

WESTGATE ROAD, to the westward of this, lies nearer the *Cliff End Shoal*; the best anchoring marks are a mill in the Bay, on a barn in the middle of the same, and *Margate Church* on *Noyland Point*; or to bring *Margate Church* near S. E. by E. of you, and the low part of the cliff (on the west side of *Westgate Bay*) in one with *Birchington Mill*; you have then $5\frac{1}{2}$, and 6 fathoms, sand and mud, or clay underneath.

In both roads the tide flows at full and change, S. S. E. or 11 hours 40 min. but the stream in the middle of the channel does not turn till half an hour later.

SECT. IV. *Instructions for sailing and anchoring into the East Swale, by JOHN STEPHENSON, a Master in the Royal Navy.*

“ THE EAST SWALE is the east end of the channel which separates
 “ the isle of *Sheppy* from the *Coast of Kent*; its length from east to
 “ west is about 5 miles, and its breadth at a medium, about $\frac{3}{4}$ of a
 “ mile, till you come opposite to the *Horfe*, where it becomes
 “ narrower. It is one of the best harbours in this kingdom; and
 “ ships losing their cables and anchors, or meeting with any other
 “ accident in the navigation, between the *River Thames*, and the
 “ *Dorons*, may here find a secure retreat untill their damage is re-
 “ paired. The shores on most places, in the *Swale*, are soft mud
 “ or oaze, therefore ships may run aground with great safety on any
 “ part

“ part of it within *Shellness*; but *Fewersham Creek* is the best place.
 “ If the ship has run on any of the sands, so as to receive such
 “ damage as to oblige her to be laid on shore, for carpenters to get
 “ round her, there is a place at *Harty Ferry* sufficiently hard for that
 “ purpose.

“ There is exceeding good anchorage in any part, from *Shellness*
 “ to a mile above *Harty Ferry*, where you find $3\frac{1}{2}$, 4 and 5 fathoms
 “ water, at low water spring tides, with clayey bottom and mud
 “ on the top: a mile beyond *Shellness* you have good anchoring
 “ with 5 fathoms, at low water.

“ The water rises here at spring tides, from 17 to 21 feet, and
 “ at neap tides from 12 to 14 feet. It flows, at the full and change
 “ of the moon, half past 12 o'clock, and with the wind from the
 “ eastward, 10 o'clock.

“ To sail into the *Swale*, being in *Westgate Bay*, or *Margate*
 “ *Roads*, with a ship drawing from 14 to 17 feet water, if you in-
 “ tend to go through the *South Channel*, and have the wind at south,
 “ or any wind that can lead all the way, that is, from south to
 “ N. N. E. get under way at half, or last quarter of the flood,
 “ and having arrived at the *West Bury of the Laft*, steer out a little
 “ to the northward, to avoid the CROSS BANKS. Then run W.
 “ by N. or W. N. W. from the *Spell Buoy*. W. by N. will carry you
 “ directly to two houses on *Shellness*, called *Paul's Houses*, which course
 “ leads safe between WHITSTABLE STREET and the COLUMBINE.
 “ The first of these banks on the larboard hand is a ridge of small
 “ pebble stones which has the appearance of a street, running out a
 “ long way from the point opposite *Whitstable*, and being dry with
 “ most tides. The second on the starboard side, is a hard sand half a
 “ mile broad, extending W. S. W. and E. N. E. about 2 miles $\frac{1}{2}$,
 “ and which dries for nearly two miles, at spring tides. Your
 “ first mark for going in, is a very remarkable clump of trees which
 “ appear like a saddle hummock in the horizon, about 10 miles up
 “ the country; this clump being brought in one with *Harty Church*
 “ (in the *Isle of Sheppy*) will carry you in the deepest water, between
 “ the *Columbine* and the *Street*. You steer, with this mark on, till you
 “ bring in one *Ore Windmill* and *Judd's Folly House*, which will bring
 “ you into the deepest water of the *Swale*, nearly as far as the east
 “ end of the *HORSE*. This is a sand about 1 mile $\frac{1}{2}$ in length,
 “ lying about one third over the channel, from the *Isle of Sheppy*,
 “ part of which is dry, from the first quarter ebb to the last
 “ quarter flood, and sometimes at neap tides it is uncovered at high
 “ water; on the south side of it, is the channel for large ships, and
 “ on the north side there is only 6 feet at low water.

“ The next mark to be observed, to carry you between the
 “ *Horse* and the main, is a remarkable barn in the upper part of a
 “ field, and brought in one with two trees in the lower part of the
 “ same field. This will bring you in the deepest of the water, nearly
 “ as

" as far as the entrance of *Feversham Creek*, when you may bear over
 " to the *Horfe*, by your lead, and anchor in 7 fathoms, at high water,
 " and 4 fathoms at low water.

" If from the *Spaniards East Buoy* you will sail into the *Swale*, you
 " steer S. W. or S. by W. until you get the *Saddle Hummock on Hart*
 " *Church*; and if from the *Pan Sand*, your course ought to be W. by S.
 " till you bring the same marks in a line. The mark for the east end
 " of the *Columbine* is *Whitstable Church* on the eastmost *Copperas House*,
 " which is painted white; and for the *Street*, the said *Copperas House*
 " open a sail's breadth to westward of *Whitstable Church*. When you
 " are in, to anchor without *Shellness*, you bring *Paul's Houses* on with
 " *East Church*, or *Leydon*, and *Ore Mill* in one with *Judd's Folly House*,
 " and drop your anchor in 5 fathoms, at low water. From this an-
 " chorage you may anchor with *Ore Mill*, and *Judd's Folly House* in one,
 " all the way up nearly to the end of the *Horfe*, where you will have
 " $3\frac{1}{2}$, and 4 fathoms, at low water.

" Sailing out of the *East Swale*, you must have a leading wind, and
 " if your ship draws 15 or 16 feet water, you are to wait till the water
 " is as high as to reach the foot of the beacon, at the mouth of *Feversham*
 " *Creek*, which will be about the first third of the flood; at that time
 " there is 3 fathoms on the *East End*, which part of the channel has
 " less depth of water than the rest."

N. B. All the bearings are *per compass*, and the variation is now
 about two points westerly.

SECT. V. *A List of the Buoys, with their Colour and Number, and the Side they are to be left on, in going down the South Channel.*

Buoys.	Colour.	Number.	Side.
NORE LIGHTS			Starboard
SPILE BUOY	Black	28	Larboard
SPANIARD WEST BUOY	White	29	Starboard
GILMAN	Red	30	Larboard
SPANIARD EAST BUOY	Black	31	Starboard
PAN SAND, <i>West End</i>	White	22	} Larboard
SOUTH KNOWL	Black	21	
WOOLPACK, <i>West End</i>	Red	33	
SPELL, <i>West End</i>	White	32	{ Starboard, in going through the Old Channel, Lar- board, in going through the Narrows.
LAST, <i>West End</i>	Black	34	} Starboard
ELBOW	Black	35	
LAST, <i>East End</i>	Black	36	
WOOLPACK, <i>East End</i>	Black	37	} Larboard.
HOKSPIT		38	

C H A P. II.

*Of the QUEEN'S CHANNEL, surveyed by Mr. MACKENZIE, in 1774.*S E C T. I. *Description of that Channel.*

THE QUEEN'S CHANNEL lies on the north side of *Margate Sand*, almost parallel to the E. N. E. coast of *Kent*, and is nearly two miles wide, except between the *Standing Beacon* on the *Pan Sand*, and the *Knowl*, where it has but $\frac{3}{4}$ of a mile. It is bounded on the south side by *Margate Sand*, the *Wedge*, and *Woolpack Sands*; on the north side by a narrow bank, called the *Tongue*, and by the *Pan Sand*. The western part of this channel ends in the *Flats*, on which there are from 6 to 13 feet, at low water.

MARGATE SAND lies nearly E. N. E. and W. S. W. about 7 miles in length, and 2 in breadth. The least water on the east end of it, is 10 feet; some of the other parts are dry from the last quarter ebb to the last quarter flood, and some only at low water spring tides.

THE WEDGE, to the northward of *Margate Sand*, is about a mile long, and a cable's length broad; its north and south sides are steep to, chiefly near the buoy; there is only 1 foot water over it, and it dries at spring tides, in March and September.

THE WOOLPACK has been described in the preceding chapter.

THE TONGUE lies about 2 miles N. W. from the *North Spit* of *Margate Sand*, being about 1 mile long, and 2 cables length in breadth; there are 9 or 12 feet water on it.

THE PAN SAND, which lies 3 miles $\frac{1}{2}$ W. by S. from the *Tongue*, is 2 miles long, and 1 mile broad; a part of it towards the east end, dries at low water, spring tides; the rest is always covered, having from 1 foot water to 4. To the south and S. E. of the *Pan Sand*, are the two small shoals called the *SOUTH KNOWL* and *PAN PATCH*.

There are no less than $3\frac{1}{2}$ fathoms in any part of the *Queen's Channel*, at low water, till you are off the west end of the *Pan Sand*, where you have only 18 feet.

It is high water, full and change, at 12; and the Spring tides rise up and down 15 feet, neap tides 7 or 8 feet only. Spring tides run here, as well as in the *South Channel*, 2 miles $\frac{1}{4}$; neap tides, only 1 mile; and off the *Foreland*, spring tides, when strongest, run at the rate of a mile and a $\frac{1}{2}$ an hour; neap tides about $\frac{1}{2}$ a mile.

From the *North Foreland*, E. S. E. 3 miles, the first two hours of the flood sets S. shifting gradually till half flood, when it runs S. S. W. being then a little after slack water. Half an hour after this, the stream sets west, and probably continues to shift gradually till it returns N. N. W. and along *Foreness*; and from thence up the *South Channel*, till high water on the shore, when it sets to the eastward.

The first of the flood near the *East Buoy of Margate Sand*, sets about S. by E. the middle of it W. S. W. and the last N. N. W. The first of the ebb sets N. N. E. the middle E. by S. and the last S. S. E. But, at the *North Spit Buoy*, it sets W. by S. nearly in the direction of the Channel, and the ebb-tide takes the contrary direction.

S E C T. II. *Directions for Sailing through the Queen's Channel *, up to the Spaniard, &c. and from the Pan Sand, up to the Shivering; then round the Oaze Edge to the North, or South of the Warp.*

When abreast of the *North Foreland*, observe the time of the tide, and the strength of the wind, so as to reach the *Flats*, if possible, the first quarter of flood, otherwise you will be obliged to anchor, and wait till the tide rises, or until the next flood, according to your draught of water.

If there is but little wind, you must make an allowance for the variable directions of the stream, or tide, near the east end of *Margate Sand*, as mentioned above, which has a tendency southward, or towards the sand, for the first 3 hours of the flood; whereas it runs northward, or from the sand, for the 3 last hours.

Keep the *Foreland Light House* S. by E. till you fall in with the *East Buoy of Margate Sand*, or till *St. Peter's Church* bears nearly S. by W. and *Birchington Steeple* about S. W. This buoy, lies in 4 fathoms, and bears about N. by W. 5 miles from the *Light-House*. Its marks are *Minster Mill* on the barn, or the easternmost house in *Westbrook* village, and *St. Peter's Church* just open to the east of *Northdown House*. In the fair Way there is 6, 7, 8 and 9 fathoms, till you come near the sand, when you will have 6, 5 and 4 fathoms.

* "I think it my duty, says Mr. *Arnold*, to advise all gentlemen commanding vessels, to be very cautious how they enter the *Queen's Channel* in the winter, lest night, and an E. or N. easterly wind should chop on them, before they can weather the *East Buoy*, and fetch *Margate Roads*; a fatal instance of which I saw myself."

As soon as you have *Birchington Steeple* into the S. W. you must steer W. N. W. and W. by N. to go between the *North Spit Buoy*, and the two *Tongue Buoys*; the *North Spit Buoy* lies in 4 fathoms water, and bears from the *East Buoy* N. W. $\frac{1}{2}$ N. 4 miles; the leading marks on it are *Minster Mill* on the east end of the barn, in *Westgate Bay*; and *Riding Mill* on the North Corner of *Northdown House*. The *East Tongue Buoy*, is a Black and White Buoy on the east end of the *Tongue Sand*; and the *West Tongue Buoy* is a White Buoy, which lies in 4 fathoms water, at the west end of the said sand, 2 miles $\frac{1}{4}$ N. W. of the *North Spit Buoy*. The long mark for this West Buoy, is a Summer-house on *Margate Fort Point*, open a hand-spike's length to the west of *St. Peter's Church*, and the thwart mark, *Birchington Steeple* in one with *Mount Pleasant*. Up to this buoy, in mid-channel, are 6, 7, 10, 11, and in some places 14 fathoms.

When you are come the length of the *West Tongue Buoy*, steer W. by S. nearly towards *Pan Patch Buoy*; this course will lead you about mid-channel, between *West Tongue Buoy*, and *Wedge Buoy*, which lies on the north side of the *Wedge Shoal*, in 6 $\frac{1}{2}$ fathoms, bearing westerly from the *North Spit Buoy* about 2 miles; and with *Monkton-Mill* on the easternmost grove of trees open of *Cliff End*.

The *Pan Patch Buoy*, lies in 9 feet, W. S. S. W. of the *Tongue Buoy* about 3 miles, and nearly a mile from the *Standing Beacon*, which then bears W. by N. $\frac{1}{4}$ N. The thwart mark is *Monkton Mill* on the westernmost grove of trees, to the westward of *Cliff End*, bearing S. S. E. $\frac{1}{2}$ E. nearly.—The *Standing Beacon* upon the south side of *Pan Sand*, has *St. Peter's Church* bearing S. E. by E. *Birchington* S. E. by S. $\frac{3}{4}$ E. and the *Reculvers* S. S. E. nearly.

You leave the *Pan Patch Buoy* about a $\frac{1}{4}$ of a mile off, on the starboard hand; when above it, you steer westward leaving the *Standing Beacon* to the northward, and the *Buoy of the South Knowl* to the southward of you; and keep this course for 2 or 3 miles, up to the West Buoy of the *Pan Sand*.

The *Buoy of the South Knowl*, lies south from the *Standing Beacon*, above $\frac{3}{4}$ of a mile; and *Minster Mill* on the *Grove End*, which is open to the westward of *Cliff End*, bearing then S. E. nearly. This *Knowl* is very small, and has no more than 10 or 12 feet water on it: between it and the *Pan Sand* are 4 fathoms in mid-channel. On the west end of the *Pan Sand* lies a White Buoy, a mile and a half to the west of the *Standing Beacon*: this Buoy you leave on the Starboard hand, and steer west, about 2 miles for the *Spaniard East Buoy*, which you leave on the Larboard hand. Then you enter the *Five Fathoms Channel*, after having crossed the north part of the *Flats*, over which you have, at spring tides 20 feet, and at dead neap tides no more than 17, at high water. The best water is right from the *West Buoy* of the *Pan Sand* to the *Spaniard Buoy*.

From the West Buoy of the *Pan Sand* to the Buoy on the west end of the *Girdler*, the course is about N. W. distance more than 3 miles,
and

and depth of water only 12, 13 and 14 feet. Coming near the *Girdler* you find from 3 to 6, and 7 fathoms, and will have the latter depth abreast of the Buoy on that sand. The *GIRDLER* lies from E. N. E. to W. S. W. nearly; it is about 10 miles long, not above half a mile broad in its western part, and dries, at low water, for several miles.

If from the *Buoy of the Girdler* you intend to go round the *Oaze-Edge*, and then northward of the *Warp*, where you find the widest and deepest channel, you must steer N. N. W. above 3 miles, for the *Buoy of the Knob*, leaving on your larboard the *East Buoy of the Shivering*, which lies between the two: in passing that end of the *Shivering* you must not forget to allow for the tide, whose flood sets very strong towards the sand.

When about a quarter of a mile to the northward of the *East Buoy of the Shivering*, if you intend to go to the southward of the *Warp*, you must steer S. by W. (leaving on your larboard hand the *Standing Beacon* on the *Shivering*) till you are abreast of the Buoy on the west end of the *Oaze-Edge*. In this channel you will have from 6 to 12 fathoms; and between the latter Buoy and the *Spile Buoy*, 10 and 9 fathoms in the fair way.

The Buoy on the east end of *Oaze-Edge* lies N. W. by W. from the *Buoy of the Knob*, about a mile and a half; and from the *Buoy of the Shivering* N. W. by N. 3 miles. Observe that there is good riding in 8, 9, and 10 fathoms, between the *Buoy of the Girdler*, and that on the *Shivering Sand*, in what is called *GIRDLER HOLE*. There is also good anchoring between the *Shivering* and the *Oaze-Edge*, in 7, 8, or 9 fathoms, with the *Buoy of the Knob* bearing from N. E. to east; there being more room in this place than in the other, the riding is better when it blows hard. Observe also that the *SHIVERING SAND* dries at low water; that on the *KNOB* there are 8 feet, and on the *OAZE-EDGE* 10 feet at low water.

When you are abreast of the *Oaze-Edge East Buoy*, you must be careful not to approach it nearer than 6 fathoms, there being 3 and 4 fathoms close to it. You leave the *Mouse Buoy* on the Starboard hand, taking care to avoid the *Hook*, which runs off a cable's length S. S. W. from the Buoy. Between the *Oaze-Edge* and the *Mouse* there is very good riding, in 7, 8 or 9 fathoms water, with the *Oaze-Edge Buoy* S. S. E. and the *Mouse Buoy* N. N. W. Being clear of the *Oaze-Edge*, you will have 9, 10 and 11 fathoms in the fair way, north of the *Warp*; to the Buoy of *Shoebury Ness*, upon the *Warp*, there are 7, 6, 5 and 4 fathoms.

In turning up and down the *Queen's Channel*, stand no nearer the lower end of the *Tongue*, than 6 fathoms, nor no nearer to *Margate Sand* than 5 or 4: but when you have got *Birchington Mill* into the S. by W. or in one with the *East Cliff* of *Westgate Bay*, the Sand being steep to, you are not to come nearer than 9 fathoms; here, in mid-channel, you will have 14 fathoms. The west end of the *Wedge* and the *Tongue*, are likewise

likewise steep to, therefore put about at the first shoal cast. Your soundings across are, near the *Tongue* 10 or 9, towards the *Wedge* 9 steep to, and in the middle ground 6 or 7 fathoms water.

SECT. III. *Instructions for anchoring in the Queen's Channel.**

In case you could not save the flood over the *Flats*, or should be too soon off the tide, it is best to anchor, particularly for large ships. In fine weather you may chuse any part of the Channel; and when it blows hard from the southward, you must anchor nearest to *Margate Sand*, especially off the *Searn Swatch*, or in *Horseshoe Hole*, in 3 or 4 fathoms water; the *Wedge Buoy* bearing E. N. E. $\frac{1}{2}$ E. and the middle of the *Grove of Trees* near *Upper Hale Farm*, in one with *Monkton Mill*, bearing S. $\frac{1}{2}$ E. Small craft, or vessels of 12 feet draught of water, may run so near the *Swatch*, as to bring the *Swinging Beacon* into the *Old Channel*, to bear W. S. W. $\frac{1}{2}$ S. and in one with the *Copperas Houses*; they will then have 3 fathoms water, and be a third of a mile from the *Swatch*. One advantage in anchoring in the *Swatch* is, that if it should blow hard from the northward, ships, about high water, or a little sooner, may heave up their anchor, or slip, as most convenient, and run through the *South Channel* to anchor in safety in the *GORE*. There are 18 feet in the *Swatch*, at high water spring tides, and 15 at neap tides: the leading mark through it to the *Gore*, is *Monkton Mill* just on, or rather open to the west of the west side of *Upper Hale Trees*, bearing S. S. E. $\frac{1}{2}$ E.

The best place for anchoring in the *Queen's Channel*, with northerly or southerly winds, is half way between *Margate Sand* and the *Wedge*, in 4 or 5 fathoms water, good ground.

To fail into this anchorage along the east end of the *Wedge*, take two, three or four hours flood, according to your draught of water, and bring *Birchington Mill* on, or rather open to the east of *Minster Mill*, bearing S. S. E. $\frac{1}{2}$ S. till the *North Spit Buoy* bears E. N. E. or the *Wedge Buoy* W. by S. Keep the marks on till you deepen your water to 3 fathoms, at low water; then steer W. S. W. for near a mile, till the *Wedge Buoy* bears between the N. N. W. and N. W. then anchor. In failing to this anchorage along the west end of the *Wedge*, bring *Monkton Mill* a fail's breadth open to the west of *Lower Hale Grove of Trees*, bearing about N. by W. and keep that mark on, till you perceive by *Margate Sand*, or the appearance of the water over it, that you are about half a mile from it, then steer E. N. E. till the *Wedge Buoy* bears N. N. W. or N. W. then anchor.

* "The *Queen's Channel*, says an experienced Pilot, is very bad to anchor in, as being exposed to most winds, and having, towards the lower part, deep water. "But ships of a small draught of water, may run off it into the *Gore*, at high water, "through the *Searn Swatch*, &c.

SECT. IV. *A List of the Buoys, &c. with their colour and number, and the side they are to be left on, in going down the Queen's Channel.*

Buoys.	Colour.	Number.	Side.
NORE LIGHTS			Starboard.
SHOEBURY NESS	Black		Larboard
SPILE BUOY	Black	28	Larboard, in sailing to the south of the Red Sand, Starboard, in sailing to the north of it.
OAZE EDGE, west end	Red	27	Starboard, in sailing to the north of the Oaze edge, Larboard, in sailing to the south of it.
MOUSE BUOY	Black		Larboard.
OAZE EDGE, last end	White	26	Starboard, in sailing to the north of the Oaze edge, Larboard, in sailing to the south of it.
BUOY OF THE KNOB	Red	25	Larboard.
STANDING BEACON on the Shivering.			Starboard, in coming between the Knob and the Shivering, Larboard, in sailing to the south of the Shivering.
BUOY OF THE SHIVERING	Black	24	
BUOY OF THE GIRDLER	Black	23	Larboard.
BUOY OF THE GILMAN	Red	30	Starboard.
SPANIARD, EAST BUOY	Black	31	
PAN SAND, west end	White	22	
STANDING BEACON on the Pan Sand.			Larboard.
SOUTH KNOWL BUOY	Black	21	Starboard.
PAN PATCH BUOY	White	20	Larboard.
TONGUE BUOY, west end	White	18	
WEDGE BUOY	Red	19	Starboard.
NORTH SPIT BUOY	Black	17	
TONGUE BUOY, east end	Blk & White	12	Larboard.
MARGATE SAND, EAST BUOY	Black	15	Starboard.

CHAP. III.

*Of the KING'S CHANNEL, and from thence to
Harwich, and Orford Nefs.*

SECT. I. *Instructions for sailing from the North
Foreland, round the Longsand Head, and through the
King's Channel, up the SWIN to the Nore.*

THE course from the *North Foreland* to the *Kentish Knock*, is N. N. E. distance about 6 leagues, 12 or 14 fathoms water all the way. When you are the length of this sand, you will have 17 or 18 fathoms, soft ground.

The **KENTISH KNOCK** lies nearly N. N. W. and S. S. E. about 2 miles in length, and 1 in breadth; it has in the middle 6 or 7 feet, at low water, some tides; and in some parts only 3 feet, but towards the edges 12, 15, and 18 feet. It bears from the *North Foreland* N. by E. about 6 leagues: and from the *Long Sand Head*, in 6 fathoms water, the east side of the *Knock* in 9 fathoms, bears S. by W. The mark to run clear of the *Knock* is, *St. Peter's Church on Riding Trees*; you will then have 15 or 16 fathoms water abreast of it, but come no nearer this sand than 11 fathoms.

From thence to the *Longsand Head* steer N. by E. with a flood tide, but with an ebb N. by W. The distance is about 3 or 4 miles. On this Head there are 6 fathoms; but it shoals gradually, and about a mile S. W. it dries. You must take care to round the *Longsand Head* in 15 fathoms at least, especially at the first of the flood, as the two first hours it sets in between the *Knock*, *Longsand*, and *Sunk*, W. by N. with a prodigious velocity.

The **LONGSAND HEAD**, and the Head of the *Sunk*, which head dries sometimes, lie from each other S. E. by E. $\frac{1}{2}$ E. and N. W. by W. $\frac{1}{2}$ W. about 3 miles; and between them is the *Black Deep*. The course from the *Longsand Head* to the *Buoy of the Gunfleet*, is W. N. W. with a flood, and West with an ebb, distance about 10 miles: in this course the *Longsand Head*, the *Sunk*, *Gunfleet Buoy*, with the *Naze Land* and *Tower*, lie nearly in the same direction. In the mouth of the Channel,
just

just within the *Gunfleet Buoy* and *Sunk Head*, (near the *Sunk*) you will have 15, or 16 fathoms water, for a small distance. Coming from the *Longsand Head* to the *Gunfleet Buoy*, turn the *Naze* from N. W. by W. to W. by N. in 12, 11, 10, and 9 fathoms water. Stand no nearer the *West Rocks* than 8 or 9 fathoms, according to wind and tide. In working into the *King's Channel*, stand to the back of the *Shipwreck* to 11 or 12 fathoms: the S. W. end of this Bank lies with the *Naze Tower* bearing W. S. W. $\frac{1}{2}$ W. *Baudsey Church* on the North end of the *Great Wood*, bearing N. W. $\frac{1}{2}$ W. and *Orford Church* and *Castle* N. N. W. Between this S. W. end to which you stand into 9, 8, or 7 fathoms) you will have 13, or 14 fathoms; but stand no nearer to the *Sunk* than 11 or 10, or the *Naze Tower* bearing W. N. W.

You must observe that between the *Shipwreck* and *Longsand Head*, almost from one to the other, and near 6 miles from the *Gunfleet Buoy*, lies the *THWART MIDDLE*, on which you have but 9 fathoms, though close to it, on both sides, there are 10, 11, and 12. This middle ground lies N. W. by N. and S. E. by S. 7 or 9 miles in length, is very narrow, and has often been taken in the night for the shoaling off the *West Flat* of the *Shipwreck*, which is deep and rather steep.

The *Gunfleet Buoy* bears from the *Sunk Head* W. N. W. $\frac{1}{4}$ W. about 6 miles. The marks for it are the *White Square House* on the *Naze*, in one with the *Tower*, bearing W. N. W. $\frac{1}{2}$ W. and *Harwich Light* N. W. by N. Come no nearer this buoy than 9 fathoms; and from thence to the *Hook*, (on which there is a *Beacon*) steer S. W. or S. W. by S. according to wind and tide. From the *Gunfleet Buoy* to the *Buoy of the Spit*, or *Swin Buoy*, the course is W. S. W. 12 miles; and about two thirds of the way lies the *Buoy of the Heaps*.

A mile and a half from the *Hook* begins a *MIDDLE GROUND*, which extends parallel to the *Gunfleet*, within a mile and a quarter from the *Spits*, having 6, 7, and 8 fathoms all along: in the Channel towards the *Gunfleet*, there are 10 and 11; between the *Middle Ground* and the *Heaps* only 9 fathoms; but on the side towards the *East Burrows*, 11, 12, and 14 fathoms. In working up come no nearer the *Gunfleet* than 10 fathoms, till you are past the *Hook*; but when you get above the *Beacon*, you may stand to 7 or 6 fathoms. In turning down, stand no nearer to the *Gunfleet* than 7 fathoms, nor to the *Heaps* than $7\frac{1}{2}$; or having deepened your water from the *Middle Ground*, as soon as you shoal again, put about ship: after you have left the *Buoy of the Heaps*, stand boldly to the eastward, till you shoal on the *Sunk* in 10 or 11 fathoms. If you are working up in the night, as soon as you lose the *Middle Ground*, come to an anchor, in 6 or 7 fathoms very good clay ground.

When athwart of the *Buoy of the Heaps*, *Great Holland Church* will bear N. W. by N. $\frac{3}{4}$ N. of you, and the *Naze* N. $\frac{1}{2}$ E. This buoy lies 4 miles East from the *Spits*.—From the *Spits*, or *Swin Buoy*, between the *Buoy of the Middle* and the *Whitaker Beacon*, the course is

D

about

about S. S. W. Stand to the *Middle* to 9, or 8 fathoms, and to the *Whitaker* to 6 or 7, towards *Buxey Sand*, chiefly when you are come up within a mile of it; for there is a spit, running to the N. E. from the *Beacon*, upon which you have not more than $2\frac{1}{2}$ fathoms. Observe also that the tide sets very strong into the *Whitaker Swashway*.

The *Buoy of the Middle* lies in 3 fathoms water, bearing from the *Whitaker Beacon* S. E. by E. $\frac{1}{2}$ E. above a mile, and from the *Spits* S. by W. 3 miles. The *SWIN* is between the *Middle* and the *Shoe Beacon*, in which you have exceeding good riding in 6 or 7 fathoms water, from half a mile above the *Buoy*, till within a mile and a half of the *Beacon*. The course in turning up is S. S. W. but you must stand to the *Maplin Sand* into 6 or 5 fathoms, and off to the *Burrows* to 8 or 9. Almost close to the *Maplin* there is a shoal called the *LITTLE MIDDLE*, and lying S. W. by W. from the *Buoy of the Middle*, on which there are not above 15 or 20 feet, at low spring ebb: and on the opposite side lies the *BURROWS KNOWL*, a small shoal lately grown up, and having not above 9 feet over it, at low water; its marks are the *Shoe Beacon*, S. W. by W. nearly, distant 3 miles, in one with the *Garrison of Shireness*; and the *Whitaker* N. by W. 2 miles $\frac{1}{2}$, open to the westward of *St. Oyst Trees*; or the *Buoy of the Middle* just open of the *Beacon*.

The *Horns*, or *Shoe Beacon*, lie N. E. from the *Buoy of the Mouse*, and N. E. by E. from the *Black Tail Beacon*. This Channel is called the *SHOE HOLE*, in working up through which, you must be careful to put about at the First shoal cast, as it is steep to, on both sides. About half a mile above the *Mouse Buoy*, lies the *Hook of the Mouse*, a spit that runs off near a cable's length into the Channel. Stand no nearer the *Shoe*, and the *Mouse* than 11 or 12 fathoms, nor the *Black Tail* than 9 or 8: Mid-channel you have 12, 13, 14, and in one place 15 fathoms water.

The course from the *Buoy of the Mouse* to the *Nore*, is W. S. W. about 9 miles. In working up do not come too near the *Oaze Edge*, nor the *Black Tail Sand*, which are both steep to. When you are on the lower end of the *Warp*, stand to the *Black Tail Sand* in 11 or 10 fathoms, and to the Northward into 11 or 12, till you come as high as *Skobury Ness*, where you will not have above 5 fathoms upon the *Warp*. (See Sect. II. in the preceding chapter.)

SECT. III. Directions for sailing from the Gunfleet Buoy into the Rolling Ground, and Harwich.

When you are off the *Gunfleet Buoy*, your leading mark for the channel called *Goldermore's Gat*, or *Gat-way*, is *Walton Hall* open to the north of the *Naze Tower*. Run in about four miles from the *Buoy*, till you

you bring the *High Light of Harwich* in one with *Pain Tree*, N. by E. then with that mark on, you run clear of the *Stone Banks*, which you leave on your starboard side; and above four miles further north, after having passed between the *Pye Sand* and the *Ridge*, (the first on the larboard, and the second on the starboard hand) as soon as you bring the *Brewhouse*, behind *Landguard Fort*, on the south east corner of that Fort, you run into the *Rolling Ground*, where you may anchor in 3, 4, and 5 fathoms water.

To the northward of the *Gunfleet*, and near 2 miles above the Buoy, you will have exceeding good riding, with E. S. E. southerly, and S. S. W. winds; for there the sand dries at the first two hours ebb. When you are the length of the *Gunfleet Buoy*, with a S. S. W. wind, if you suspect bad weather a coming, the safest method will be to work up to the northward of the sand, about 2 miles above the Buoy, and anchor in 7 or 8 fathoms, where you will have better riding with half a cable upon the small bower, than you would have had with both anchors a-head, and whole cables out on the south side of the sand.

If you are bound to *Harwich*, you run towards the Fort, with the *Brewhouse*, on the south east corner, as above, and keep close to the shore, in 4 and 5 fathoms, to avoid the *Alter*. When past the Fort, you steer north, keeping your lead going (on account of the *Glutton* and *Grizzle*, which lie close on each side of you,) and having always *Corwen Ferry House* on with the *Beach*, till you bring *Dover Court Church* open to the north of *Harwich*; then you may safely run in, and anchor where you chuse, off the town.

To sail into the *ROLLING GROUND*, or *HARWICH*, round the *West Rocks*, (which is much the safest way) you steer away, from the *Gunfleet Buoy*, N. E. by E. in 8 and 9 fathoms, about 2 miles; and then, with *Bauldsey Church* in one with the *Tuft of Trees*, you sail along the *West Rocks* in 5 and 6 fathoms, for the Buoy of the *Rough*, or *Rugged Rough*. This Buoy bears from the *Gunfleet Buoy* N. E. by N. about 6 miles. Its marks are *Harwich Church* on the *Brewhouse* behind *Landguard Fort*, and *Ramsbot Church*, just shut in with *Bauldsey Cliff*, N. $\frac{1}{2}$ W. or till *Harwich Lights* come well open N. W. if in the night. With these marks on, run in till the south west high land, or *Cork Trees Land* is open of the *Naze Land*, about W. S. W. or when *Orford Church* and *Castle* open of *Bauldsey Cliff*: these will get you clear of the *Cork Ledge* that lies off the N. N. W. end of the *Cork Sand*, and has but 8 or 10 feet of water on it: they will also run you safe without *The Platters*, which lie about a mile to the S. E. of *Landguard Fort*, are dry sometimes, and have 4 fathoms close to them. With the last mark on, that is *Orford Church* and *Castle* open of *Bauldsey Cliff*, you run in till both *Harwich Lights* come in one, and then pass between the *Ridge* and *Andrews*, for the *Rolling Ground*, or for *Harwich*. You must not, if possible, open the *Lights*, in running in, the Channel

between the *Ridge* and *Andrews*, being not above a cable's length broad; and both sands being very hard, stoney, and steep to 5 fathoms very near.

N. B. In this Section all the bearings are by the compass, whose variation is now above two points westerly.

SECT. IV. *Directions from the Gunfleet Buoy to Orford Ness.*

From the *Gunfleet Buoy* being bound to the eastward, your course out between the *SHEEPWASH* or *BAUDSEY SAND* *, and the *Long Sand* is due east. You must take notice that between these two sands, lies a middle ground called the *THWART MIDDLE*, on which the greatest depth is 9 fathoms, though close to it on both sides, there are 10, 11, and 12 fathoms. This middle ground lies N. N. W. and S. S. E. in length about 9 miles, distant from the *Gunfleet Buoy* 6 miles, and about 5 from the *Bauldsey Sand*. It is very narrow, and in the night has been taken often for the shoaling off the west flat of the *Sheepwash* which is deep, and rather steep. After having run about 3 miles, on your easterly course, if you are bound to the northward by the *Whiting* at *ORFORD NESS*, you run through the *Sled* N. by E. with *Orford Church* on a barn, or storehouse by the beach, till *Felstow Church* and *Trees* are shut in, and *Alderton Church*, (to the north of *Bauldsey*) bears nearly west; then being in *Hosley Bay*, you may steer N. E. between the *Whiting* and the beach. The best anchoring in *HOSLEY BAY* in 4 or 5 fathoms, is when *Hosley Church* and *Parsonage* are in one, N. N. W. distant about 3 miles. Observe that in turning through the *Sled*, you must stand no nearer to the *Sheepwash*, or *Bauldsey Sand*, than 6 fathoms, nor to the *CUTLER*, on the larboard side, than 5 fathoms, or $5\frac{1}{2}$; and the mark to avoid the *Cutler*, is the S. W. land open of the *Naze Land*. Observe also that in turning down within the *Whiting*, you are to stand no nearer that sand, which is very steep to, than 7 fathoms, nor to the beach than 5 fathoms. The channel, between the *Whiting* and the beach, is little better than a mile and a half broad, at its eastern end, and about 2 miles at its west entrance; the whole length of it lies a *Middle Ground*, which is very narrow, and has on it but 3 or 4 fathoms water. The safest method, after having deepened water from that *Middle Ground*, is, as soon as you shoal again, to put the ship about. You must not stand too near the buoy of the *Whiting*, as the spit of sand, which is shoal, lies half a cable's length within the Buoy.

* The *Sheepwash*, which dries at low water, is the whole eastern edge of the *Bauldsey*, or *Bauldsey Sand*.

SECT. V. *A List of the Buoys and Beacons, with the Side they are to be left on, in going down the Swin, and King's Channel to Orford Ness.*

Buoys, &c.	Colour.	Side.
NORE LIGHTS		Starboard
SHOEBURY NESS BUOY	Black	Larboard
OAZE EDGE, <i>West End</i>	Red	Starboard
BLACK TAIL BEACON		Larboard
BUOY OF THE MOUSE, <i>West End</i>	Black	Starboard
SHOE BEACON, OF THE HORNS, called also <i>Maplin Beacon</i>		Larboard
WHITAKER BEACON		
MIDDLE SAND BUOY	Black	Starboard
SWIN BUOY, or <i>Buoy of the Spit</i>	Black	Larboard
BUOY OF THE HEAPS	White	Starboard
STANDING BEACON ON THE GUNFLEET		
GUNFLEET BUOY	Black	Larboard
BUOY OF THE ROUGH, or <i>Rugged Rough</i>	Red	Larboard
BUOY OF THE WHITING	White	Starboard, if bound within the Whiting.

SECT. VI. *Tides in the King's Channel and on the Banks, &c.*

It flows at the *Kentish Knock*, full and change, the same as in *Margate Roads*, that is S. by E. and N. by W. at the *Longsand Head*, and *Gunfleet Buoy*, S. S. E. and N. N. W. At the *Longsand Head*, the first third of the flood, (as already observed) sets in W. by N. between the *Knock*, the *Longsand*, and the *Sunk*, with a prodigious velocity. It flows at the *Spitts* S. by E. and N. by W. at the *Shoe Beacon* South and North, and at the *Nore* S. by W. and N. by E.

It flows in the *Swin* up and down 3 or 4 fathoms as the tides are.

N. B. A little to the westward of *Orford Ness* there is a Counter-current occasioned by the Point above *Orford Lights*: it runs down during the flood, with as much velocity as the tide runs up in the channel, or Fair-way; and ships, by getting into this Eddy, have missed Stays, and run on shore before the wind.

CHAP. IV.

*Directions for the Downs.*SECT. I. *Description of the Two Forelands—the Downs—the Goodwin Sands, &c.*

BETWEEN the *North* and *South Forelands*, (which bound the easternmost part of *Kent*) and the *Goodwin Sands*, lies that famous Road called the *Downs*; it is tolerably good, though sometimes through the ignorance and carelessness of Pilots, more frequently than from the fury of S. E. or E. N. E. winds, ships are driven, and of course wrecked upon those sands; * which makes some safe port in their neighbourhood so desirable.

The Road is chiefly from a-breast of the South end of *Deal Town*, away to the Northward, as far as *Sandown Castle*; or farther North, where it is called the *SMALL, or NORTH DOWNS*, according to the draught of water of the ships.

The *TWO FORELANDS* bear from each other S. $\frac{1}{2}$ W. and N. $\frac{1}{2}$ E. dist. about 13 miles. The *NORTH FORELAND* is 2 miles and a $\frac{1}{2}$ long, in a direction N. N. W. $\frac{1}{2}$ W. and S. S. E. $\frac{1}{2}$ E. it comprehends 3 points, the northernmost of which is called *Foreness*, (by some *Fairness*) the middlemost, *White Ness*, and the Southernmost, *East Ness*: This last, which is properly the *North Foreland*, has a *Light House*, half a mile to the Westward.—The *SOUTH FORELAND* is a single round point, with a Ledge of rocks running off from it about $\frac{3}{4}$ of a mile E. S. E. nearly. On this point are two *Light Houses* bearing from each other

* In the *London Gazette*, N^o 3971, there is an account, that in the storm of November 27, 1703, the *Stirling Castle*, *Restoration*, *Northumberland* and *Mary*, on board of which was Rear-Admiral *Beaumont*, were lost upon the *Goodwin Sands*, when upwards of eleven hundred seamen perished.

about

about E. by N. and W. by S. The *Lowermost* stands near $\frac{3}{4}$ of a mile from the *Foreland*, and the *Uppermost* near $\frac{1}{2}$ a mile farther.

The *GOODWIN SANDS*, about 7 miles in length, are divided in two parts by a very narrow channel; they are dry in many places, at low water, or long before it. The North part, which has a triangular form, lies North and South towards the sea, extends to the S. W. towards the shore, and runs away to the S. E. to meet the East side; it is about 3 miles $\frac{1}{2}$ long, and 2 $\frac{1}{2}$ broad: the north end, called *North Sand Head*, is six miles from the coast: the West end, which is very dangerous, is called *Bunt Head*: the largest place which dries in this sand, is known among several seamen by the name of *Jamaica Island*. The South part of the *Goodwin* has 3 miles $\frac{1}{2}$ in length, and not above a mile in breadth at the North End, from which it goes away towards the S. W. $\frac{1}{2}$ W. gradually diminishing till it ends in a narrow point called *South Sand Head*: this head is only 3 miles distant from the coast. Observe that storms and strong tides alter these sands more or less every year.

The marks for the *North Sand Head* are *St. Peter's Church*, or *Broad Stairs Pier Head*, bearing W. N. W. or *St. Laurence's Church* on the Hole to the Eastward of *Ramsgate*; and the *North Foreland Light House* N. W. by W.—Note, you must not shut *St. Peter's Church* behind the *Foreland*, or else you will be a-ground.

The thwart mark for the *Bunt Head* is *St. Laurence's Mill* * on the North cliff of *Ramsgate*.

The marks for the *South Sand Head* are *Upper Deal Mill*, a cable's length to the Southward of *Walmer Castle*; and *Kingsdown* in one with *Ringwood Church*.

SECT. II. *The Brake — the Gull Stream, and Directions for sailing through.*—Long Nose—Broad Stairs Knowl, &c.

Three miles and a half from the *North Sand Head*, and above 2 $\frac{1}{2}$ from the *Bunt Head*, lies the *Brake*, between which and the *Goodwin*, is the Channel called the *Gull Stream*.

* *St. Laurence's Mill* is above *Ramsgate*, upon *Ramsgate Pier Head*, or to the Northward of it.

The **BRAKE** is about 3 miles long, and scarce half a mile in the widest part, and lies S. W. by S. and N. E. by N. It has from 8 to 15 feet water, but a part of it dries, for about a mile towards the West end; and on the South end, otherwise the *Stone Bank*, (or the *Rolling Stones*) there are 18 feet at low water. The extreme part of this end, called *South Brake Head*, is indicated by a black Buoy, whose marks are *Ash Church* * between the two churches of *Sandwich*, or rather nearer *St. Clement's*, † (which bears then about W. by N.) and *Lord Guildford's Belvidere* in one with *Sandown Castle*. The marks for the *North Brake Head* (which is indicated by a red Buoy) are *St. Laurence's Church* on the North cliff of *Ramsgate*, (or a little to the Northward of *Ramsgate Pier Head*) and the *Light House* open to the Northward of *Stone Stairs*; or, the pitch of the *North Foreland* N. W. by W. $\frac{1}{2}$ W.

Three quarters of a mile to the Southward of the *North Brake Head*, you meet with *Overfalls*, whose marks are *Ash Church* upon the third *Pail Hill*, and *Mongeham Church* open to the Southward of *Deal Mill*.

If, from the *South Channel*, you are bound through the **GULL STREAM**, you must get clear of the *Long Nose*, that is, the ledge of rocks which runs off from the *Fore Ness* half a mile to the N. E. The following directions will be your guide:—In turning up or down between the *Narrows*, (*Chap. I. Sect. II.*) come no nearer to the main than 3 and 4 fathoms; nor nearer to *Margate Sand* than 3 near the *Hook Spit*, (*Chap. I. Sect. III.*) and 5 farther Eastward. Likewise come no nearer than 6 or 7 fathoms to *Long Nose*, whose marks to run clear, are *Seed Mill* below *Birchington*, open of *Ledge Point*, and the *Light House* on the North cliff, or *King's Gate*, bearing nearly South. Or, if you cannot see the *Seed Mill*, you keep *Margate Church*, 6 or 7 feet above the cliff; when athwart of the *Ness* the *Light House* bears S. by E. and when clear of it S. by W. $\frac{1}{2}$ W.

In steering for the *Gull Stream*, be careful of **BROAD STAIRS KNOWL**, which lies S. E. nearly, from the *Light House*, a mile and a quarter from the shore. It is only a cable's length long, from S. W. by S. to N. E. by N. and half a cable's length broad; the least water

* *Ash Church* is on the high land to the Westward of *Sandwich*, and has a small spire steeple.

† *St. Clement's Church* has a square steeple; and is the southernmost of *Sandwich* two churches

upon it is 15 feet. When *Broad Stairs Windmill* is in one with the chimney of the middle house in *Crow Hill*, bearing W. by S. $\frac{1}{2}$ S. that a small hut near the public-house at *King's Gate*, is just open with the *Ice House Point*, bearing N. W. nearly; and the West corner of a remarkable square field (which lies a little to the Northward of a *Stone House*) is a handspike's length to the Westward of *St. Peter's Church*, then you are right on the shoalest part of *Broad Stairs Knowl*.

To carry your ship clear of this Knowl, in sailing along to the East side of it, keep *Forenefs* open a sail's breadth of the North point of *King's Gate Bay*, on which point there is a remarkable building.

If you are bound through the GULL STREAM, being abreast the *Knowl*, steer S. by E. and S. S. E. till the Upper Light House on the *South Foreland*, comes in the middle of the *Old Stairs Bay*,* or rather nigher the South side, bearing them S. S. W. or S. W. by S. $\frac{1}{2}$ S. This is the leading mark for the *Gull Stream*, which mark and course will lead you 3 or 4 miles beyond the Buoy on the *South Brake Head*, till *Norbourn Mill* comes on with upper *Deal Church*, 5 $\frac{3}{4}$ W. then steer out for the *South Foreland* S. S. W. $\frac{1}{2}$ S. southerly till you get both Light Houses in one, then you will be clear of the *South Sand Head* and *Spit*, as well as the *South Foreland Knowl*, and have 14 and 15 fathoms water.

In this course you must mind your lead, and not stand nearer to the *Brake* than 7, 6, or 5 fathoms (with the Uppermost Light House upon the west side of the *Swamp*) nor nearer the *Goodwin* which is steep to, than 9, 10, or 11 fathoms, near the *Bunt Head*, (till the Light House is on the East side of the *Swamp*) and 8 to the North end. Likewise stand no nearer to the *South Sand* than 8, nor to the main than 7 fathoms.

If your ground tackle should fail in the night, when riding at the *North Foreland*, and you cannot weather the *Foreland*, then weather the *North Sand Head*; steer away, with the *North Foreland Light* N. W. by W. and W. N. W. then bear over into 8 or 9 fathoms, *St. Peter's Church* open of *Broad Stairs Pier*, W. by N. and stand neither of the marks more to the northward. Being in the above depth, and steering S. S. W. it will carry you through the stream without danger.

Observe, that above 3 miles to the Northward of the *North Sand Head*, there is a SPOT of chalky uneven ground, which in one place has but 3 fathoms at low water, spring tides: its marks are *St. Peter's*

* *Old Stairs Bay* is a swamp between two white cliffs, which are both a large half mile to the Southward of *Kingsdown*, upon the *South Foreland*.

Church West, and *East Ness W.* by N. Observe also, that in the *Gull Stream*, the soundings at Mid-Channel are 8, 9, and 10 fathoms, except at the distance of a mile W. N. W. from *Bunt Head*, where you find but 5 for the length of $\frac{3}{4}$ of a mile E. and W. This spot is called *Bunt Head Middle* by *Joseph Ross*, a Trinity House Pilot of great experience in these parts.

“Coming from the sea by the *South Sand Head*, (says the same Navigator) you must stand in till you shut *Hay Cliff* (which is to the Westward of *Dover*) with the *South Foreland*; then if the wind is Westerly, you may steer boldly for the *Brake Buoy*, and sail with your lead a going through the *Gull Stream*.

There is also, in the fair way from the *North Foreland* to the *Gull Stream*, a *Bank*, on which are only 19 feet, at low water, spring tides (and in one spot, according to some mariners, but 14 feet) It lies near a mile N. N. E. $\frac{1}{2}$ E. from *North Brake Head Buoy*, and about 3 miles S. E. by S. from the *North Foreland*. The mark for this patch is *Minster Mill* open about a ship's length, to the southward of *Jacob's Ladder*; which ladder is a very long boarded stair, raised against the cliff, a little to the southward of *Ramsgate*, for the communication between the shore and the top of the cliff.

SECT. III. *The South of Great Downs—Deal Bank—Directions for sailing in and out, &c.*

Being in *Dover Road* in the night, and sailing for the *Downs*, you have in the fair way between the *South Foreland* and the *Goodwin Sands*, 17 or 18 fathoms water; but stand no nearer the *Goodwin* than 16 or 15 fathoms, and keep along shore in 8, 9 or 10, till you bring the *South Foreland Lights* in one, and *Sholden Church* on *Upper Deal Church*, bearing N. W. by W. $\frac{1}{2}$ N. (see the Ist and II^d Sections for *South Sand Head*, and the *South Foreland Ledge*) Then steer North, or N. by W. according to wind and tide, till the South end of *Deal Town* bears W. by S. and the *South Foreland Lights* about S. by W. then anchor in 8 or 7 fathoms. The best Road in the *Downs* is *Deal Mill* in one with *Deal Castle*, and 8 or 9 fathoms, about 2 miles S. $\frac{1}{2}$ E. from the *Brake Buoy*; or the Windmill at the North end of the town on the *North Bullock*, and the *South Foreland Light House* on *King'sdown*.

The usual way of mooring a ship in the *Downs*, is with the best bower to the Westward, and the small bower to the N. E.

There are two sand banks in the *Downs*; the first is called *DEAL SAND*, of which coasters and small vessels must be very cautious: it lies off *Deal Town* half a mile from the shore, and has no more than 9 or 10 feet, at low water, spring tides. When *Deal Church* is on the *King's Building* at the West end of the town, you are right upon it. The second bank lies off *Walmer Castle*, nearer the shore than the first; its mark is *Upper Deal Church* almost in one to *Walmer Castle*. Keep the *Foreland S.* by *W.* and not more to the Southward, otherwise you will be upon it, in 17 feet at low water. You must come no nearer this bank than $6\frac{1}{2}$, or 7 fathoms water.

If you happen to be in the *Downs* in the night, the wind S. W. or Southerly, and blowing hard, which causes the ship to part from her anchors and cables, the means you must take for your safety, are first to bring the *South Foreland Light* S. S. W. $\frac{1}{2}$ W. of you, and steer north by E. and N. N. E. Northerly, in 8 or 9 fathoms, until you bring the *Light of the North Foreland* to bear N. W. or N. W. by W. from you; then you are to steer E. or E. by S. which will carry you clear of *North Sand Head*. All along the Flats of the *Foreland* you will have 6 and 7 fathoms water; but as you haul to the Eastward and Southward, you deepen the water from 7 to 9, 12, 18, 24 and 28 fathoms; when you are clear of the *Goodwin Sands*, and in a fair way, then act as you find most convenient, and steer to the Northward, or heave to.

If you are at the *North Foreland* in the night bound for the *Downs*, the tides falling out too early or too late, and the wind at South, or S. S. W. you are to weigh anchor time enough to be at *North Sand Head*, at the turning of the tide to the Southward. From the *Foreland* you may steer out with the flood tide E. S. E. and S. E. by S. or keep the *North Foreland Light* N. W. by W. This course will lead you out. But for greater safety keep the lead well, then you may borrow off and on with the aforefaid winds, in 7 or 8 fathoms; and steering out the same course, you will find the depth suddenly changing to 18 or 20 fathoms, in which last depth you are to run; then you may haul up close to the southward, along the *Back of the Goodwin*, the Easternmost side of which lies North and South, in 12 or 14 fathoms, and is not above a faker shot from the Sand.

But if you are at the *North Sand Head* in the day-time, and the wind should blow so hard that you cannot well tack to run through the *Gull*, make use of the marks (mentioned in the first Section of this

Chapter) to carry you out at this head, or borrow upon the Sand by the head as before; and so taking the first of the tide without the Sand, you may stand to the South Eastward. You are to borrow on the *South Sand Head* as near as possible, keeping *Upper Deal Church* and *Walmer Castle* in one; but you must not open the church to the Northward of the Castle for fear of the Sand, until you are in the fair way, when you steer the proper course for the *Downs*. (See *Seet. I.*)

If you are bound to the Southward, you must run down in 26 fathoms; and when you get *Folkstone High Land* open of *Dover*, you are without the *Goodwin*.

SECT. IV. *The Small, or North Downs—Inner Channel—Cross Ledge—Querns—Colbourn, &c.—Ramsgate.*

The *SMALL, or NORTH DOWNS* lie N. N. W. of the *Great Downs*, about 2 miles between the *Brake Sand* and the shore. The best anchorage is $\frac{3}{4}$ of a mile, or better from the *Brake Buoy* in 6 fathoms water, with *Deal Mill* on *Sandown Castle*. A mile and a quarter to the South of this and off *Sandown Castle*, is the best anchorage for small vessels $\frac{3}{4}$ of a mile from the shore, *Sandown Castle* bearing W. by S.

To the Northward of the *Small Downs*, between the *Brake* and the *Ramsgate* shore, lies the *INNER CHANNEL*, wherein there are not above 11 or 12 feet at low water. The shoals in this channel are the *Cross Ledge* near the *Brake*, with the *Querns*, the *Four Foot*, and the *Colbourn* in the North part towards the shore: it is dangerous, and only navigable for coasters and small vessels.

The course through the *Inner Channel* is N. N. E. and N. E. by E. according to the wind and tide. The leading mark is *St. Margaret's Church* on with the North end of *Deal Town*, or the *North Foreland Light House* open two or three sails breadth without *Broad Stairs Pier Head*, until you bring *Winborough Steeple* between the two Churches of *Sandwich*. This will carry you clear to the Northward of the *Cross Ledge*, over which there are but 6 or 7 feet at low water, and whose thwart mark is *St. Laurence's Mill* on *Ramsgate Pier Head*. The mark to run between the *Querns* and the *Cross Ledge*, is likewise *Willborough Steeple* between the two churches of *Sandwich*, or S. W. $\frac{1}{4}$ W.

$\frac{1}{2}$ W. This will serve also to carry you between the *Querns* and the *Brake*; and when without the *Querns*, you have the *North Foreland Light House* right on the North cliff off *Broad Stairs*. On the *Querns*, which lies $\frac{3}{4}$ of a mile N. N. W. of the *Cross Ledge*, there are but 2 feet, and it dries sometimes at low water. The mark for its South end is *St. Laurence's Mill* on the North cliff of *Ramsgate*; for the North end, the same Mill in one with a Hole (in the North Cliff) called *Old Vester's Hole*. From the *Querns* to get clear of the *Colbourn*, you steer N. E. $\frac{1}{2}$ E. until you run into 6 or 7 fathoms, or *St. Peter's Church* a handspike above the land. The *Colbourn* has but 3 feet water over it, and its thwart mark is *St. Peter's Church and Mill* in one. Then proceed to the *North Foreland*, taking care of the *Broad Stairs Knowl*, &c.

From the *Small Downs*, if you should intend to go into *Ramsgate Harbour*, steer away with *Deal Mill* well open to the Northward of *Sandown Castle* N. by E. and keep the shore well on board in 3 and 4 fathoms water. From the *North Brake Head*, steer W. by S. $\frac{3}{4}$ S. till *Ramsgate Mill* comes nearly on with the *Pier Head*, then run in with that mark. A quarter of a mile to the North of the *Querns* is the *Four Foot*, near a mile to the Westward of the *Pier Head*: you clear it, as well as the *Four Foot*, by bringing the *Mill* and the *Pier Head* in one.

SECT. V. *Of the Tides on the Goodwin Sands, and in the Downs, &c.*

At the *North Foreland* it flows 11 hours and a $\frac{1}{4}$. On the *Goodwin Sands*, the first of the flood sets strong over *South Sand Head*, into the Bight to *Bunt Head*, and out again over *North Sand Head*; the middle sets more over the Sands for the *Gull Stream*, and the last of the flood sets nearly regular for the *South Foreland*. The first of the ebb sets almost regular for the *South Foreland*, the middle more over for the *Gull*, and the last over *North Sand Head* for *Bunt Head*; then out again over *South Sand Head*.

Off *Broad Stairs Knowl* the first of the flood sets S. $\frac{1}{4}$ W. at half flood, or little more, it is dead water; and from $\frac{3}{4}$ flood till near $\frac{1}{2}$ ebb, the tide sets nearly W. by S. and West, when the low water slack begins. Off the *North Foreland*, in gales of wind, the tide often sets quite round the compass.

Of

THE CHANNEL PILOT.

Off the *South Foreland*, and in the mouth of the *Gull Stream*, near the *Downs*, the tide flows full and change, S. $\frac{1}{2}$ W. or about 2 hours 15 min.

It flows in the *Downs* by the shore, tide half tide; and half a quarter tide S. S. E. that is 10 hours 30 min. but the stream continues to run three hours three quarters later, before the tide turns S. W. by S. In the road it flows S. E. by S. or 2 hours 15 min. When it is high water in the *Downs*, it is half ebb at the *North Foreland*. It flows up and down in the road 15 or 16 feet, common tides. Being in the *Downs*, bound to the Westward with the wind S. S. W. the most proper time of tide to weigh at, and come under sail, is high water slack, and cast in shore, by reason of the tide's making sooner in the shore than in the offing, and being very strong.

DIRECTIONS

D I R E C T I O N S
F O R T H E
E N G L I S H C O A S T,
F R O M T H E
D O W N S t o t h e W E S T W A R D.

C H A P. V.

From the Downs to Spithead and Portsmouth.

S E C T. I. *To turn to Windward out of the Downs—
Dover—Folkstone, &c.*

TO turn out of the *Downs* with a southerly wind, you must weigh as we have already observed, at high water slack, and cast in shore to have the first of the tide, which sets out very strong in shore. Observe to stand no nearer opposite *Deal* than 6 or 7 fathoms, nor between *Walmer Castle* and the *Cliff* than 8 or 9; and not more than 10 or 11 on the pitch of the *Foreland*. When standing towards the *Goodwin*, come no nearer the Sand (opposite the town of *Deal*) than
10 fathoms;

10 fathoms; when *Deal Mill* is between *Deal* and *Walmer Castle*, stand no nearer than 12, and when the said *Mill* is on *Walmer Castle*, no nearer than 14 fathoms; always observing not to shoal your water towards the *Goodwin*; for if you once come to lessen it, your next cast will be ashore, this Sand being steep to on both sides: in day time you may see on its edge the rippling of the tide.

When clear of the *South Sand Head*, you will have the *Upper Light* on the *South Foreland*, open to the westward of the *Lower*, and *Upper Deal Church* open a ship's length to the southward of *Walmer Castle*, by which you will avoid all danger. Another mark to carry you clear of the *South Sand Head*, is the *Upper Light* open to the southward of the *Lower* one, and *Folkstone Church* open with *Hay Cliff*. When you bring the land of *Folkstone* open with *Dover Pier*, then you may steer for *Dunge Nefs*.

From the *South Foreland*, W. S. W. above 4 miles, lies *DOVER*, a very good tide harbour. In consequence of a regulation observed since the 1st of *October*, 1772, as soon as there are from 9 to 10 feet water in the harbour of *Dover*, notice is given of it by a flag in the day-time, and a lanthorn during the night, which they keep hoisted till the water is come down again to that height, when they strike the flag or lanthorn. (See *Calais*, Chap. XII. Sect. 1.) Great caution is necessary in standing into *Dover* in gales of wind, as there is a counter-current not above a cable's length broad, which sets right athwart the harbour's mouth, from the last quarter flood till the end of the first quarter ebb. In this harbour, at spring tides, are near 20 feet water at high water, and on the bar, at half flood, generally 10 feet.

The marks to ride in *Dover Road* are, to bring the *White Way* to the N. W. of *Dover Castle* right over the *Hill*, (the lower end that comes from *Dover Castle*) or between the *Hill* and *St. James's Church*, which is a flat steepie at the north end of *Dover Town*. You may anchor in what depth you please, from 7 to 14 fathoms.

Athwart of *Folkstone*, in 12 or 14 fathoms, you will find very good ground to anchor in: but, to the eastward of *Folkstone*, about $\frac{3}{4}$ of a mile from the shore, you must take care of a very dangerous *Ledge of Rocks*, by which several ships have been taken up; keeping in 10 fathoms will carry you without them,

SECT. II. *Sailing to Dunge Nefs—the Gunman, and Ripraps.*

From the *South Foreland* to *Dunge Nefs*, the course is S. W. by W. 7 or 8 leagues. In turning to windward between the *Foreland* and the *Nefs*, there are two dangerous shoals, the first of which, called the
GUNMAN

GUNMAN, lies almost mid-channel, about 2 leagues in length, and bears south of the *South Foreland* 10 miles; S. S. E. $\frac{1}{2}$ E. from *Dover*, 9 miles; and E. by N. from the *Nefs*, about 16. It is a narrow spit of sand very hard, with no more than 17 feet water on it at half flood, and but 11 and 12 feet at low water, spring tides. When *Dover Castle* is (per compass) N. N. E. *Folkstone Church* W. N. W. *Blancnez* E. S. E. and the *Cliff of Calais* East, you will be right on the shoalest part of it*. There are 5 and 6 fathoms close to it, and all round it. The long mark for this dangerous shoal is a white way (between the two Light Houses) on with *St. Margaret's Church* and the *South Foreland*; the thwart mark is a *Hedge by Hay Cliff* on with *Hay Cliff*. In general come no nearer the *Gunman* than 18 fathoms; for, when you have 20 fathoms, the next cast you find but 10, the next 5, and then a-ground.

The second shoal called the *RIPRAPs*, (formerly the *Vane*) and by the French *la Calbarde*, is a narrow sand to the southward of the *Gunman*, near the French coast; it lies in length about E. N. E. $\frac{1}{2}$ N. and S. W. by S. near 4 leagues, and not much above a mile in breadth; the N. E. end is the shoalest, having but 15 feet, on it at low water, spring tides, and 22 or 23 fathoms on either side: on the S. W. end you have 3 or 4 fathoms. The *Riprap*s bears from *Dover Castle* S. S. E. about 4 leagues; from *Folkstone*, S. E. 4 leagues $\frac{1}{2}$; and from *Calais Cliff*, West about 3 leagues: Its south end bears from *Dunge Nefs* about E. S. E. 16 or 18 miles. It flows at the *Riprap*s N. E. and S. W. that the tide runs to the eastward till 3 o'clock full and change, when it is half ebb by the ground.

S E C T. III. Dunge Nefs, or Denge Nefs — Stephenson's Shoal—The Rear—Tides, &c.

DUNGE NESS is a low beachy point, steep close to, on which stands a square *Light House*, called the *Nefs Light*: in passing it you must come no nearer than 12 or 14 fathoms. To the south west of this point about 4 miles, a SHOAL, having only 18 feet water upon it, at low water, has lately been discovered by Mr. *John Stephenson*, a Master in

* Bearings of the *Gunman Sand*. Light House on the *South Foreland* N. E. $\frac{1}{4}$ E. dist. 11 miles. *Dover Castle* N. $\frac{1}{2}$ E. 10 miles. *Folkstone Church* W. by N. 11 miles. These were given to Sir *John Norris*, by Captain *Richard Garlington*, of his Majesty's ship *Princess Carolina*, and taken when on a cruise in 1734.

the Royal Navy. The thwart mark for this shoal is *Lyd Church* on with the ruins of an old Chapel, called *Chapel at Street*, about 11 miles up the country; and the long mark is the *Ness Light* E. N. E. and the nethermost high land of *Beachy Head* just shutting in with the point of *Fairleigh*, or apparently a quarter of a cable's length open of the same point. In sailing from the westward, these marks will keep you clear of this shoal.

The best place for merchant ships to anchor to westward of *Dunge Ness*, is to bring the *Light House* to bear E. by S. and *Lyd Church* N. E. they will then have 5 fathoms at low water, good holding ground, and be greatly out of the tide.

To anchor eastward of *Dunge Ness*, you must bring the *Light House* to bear S. W. by W. or 8. W. and anchor in 9, 10, or 11 fathoms.

Turning to windward between *Dunge Ness*, and the *South Foreland* there is a sand called **THE REAR**, which spits off from *Dunge Ness*, running parallel to the shore, as far to the eastward as *Hith*, and lies about 2 miles off with only 10 feet upon it. There are 7 fathoms close to it, at the westernmost part, 11 at the middle and easternmost part, and between it and the shore, 4, 5, and 6 fathoms. The mark to avoid **The Rear**, is to keep the *Lights on the South Foreland* in sight. This sand is supposed to be the same on which the *Medway*, a 60 gun ship, struck many years ago.

Very near *Dunge Ness*, and a little to the westward of it you have, 21, 22, and 23 fathoms, and between the *Ness* and *Dover*, off the *Ripraps*, &c. 17 and 18; but to the southward you will find 35, 36, and 37 fathoms, and that pretty near them. When you are above *Dunge Ness*, and running for the *Downs*, 16, or 17 fathoms will carry you without the *South Sand Head*; 15 fathoms will run you right upon it; and 14 will carry you within it into the *Downs*.

N. B. All the bearings above-mentioned are by compass; the variation being 23 deg. W.

It flows at the *Ness* 10 hours 51 minutes, on full and change days of the moon. The strongest tide in the offing runs in 15 fathoms. At spring tides the water rises 24 feet, and at neap tides 14 or 15 feet.

Five or six miles to the west of *Dunge Ness*, is the meeting of the **NORTH SEA AND CHANNEL TIDES**, at which place the water rises about 7 feet higher than it does to the westward or eastward. These two tides operate in the following manner, the North Sea current overpowering that of the Channel. The flood tide runs three hours longer in the *Straits of Dover* than on either side of those Straits, and afterwards sets to the west during five hours and a half; then it turns to run eastward for six hours and a half. The ebb tide about the Straits, begins to enter the Channel four hours before the flood has done running at the *Ness*, and both uniting set then to the westward during four hours. At this moment the ebb above the Straits having
run

run already three hours, the ebb at *Dunge Nefs* follows it towards the east, and after a course of two hours unites with the Channel flood coming from the westward, when both continue during four hours and a half, to run through the *Straits of Dover*.

S E C T. IV. *From Dunge Nefs to Beachy Head—*
Rye — Eastbourn — Pevensey Harbour — Rattan
Rocks — Royal Sovereign's Shoal — Horse of
Willingdon, &c.

From *Dunge Nefs* to *Beachy Head*, the coast makes a long bight, and the course is W by S. or W. S. W. about 10 leagues. *BEACHY HEAD* is a high and steep white chalk cliff, to the westward of which stand the *Seven White Cliffs* that are the most remarkable land you can see. To the eastward of the *Point*, you may anchor with westerly winds in 6 or 7 fathoms water, so that the *Point* bears S. and S. by W. from you: it flows off *Beachy*, and in the *Offing* N. by W. 11 hours, and S. by E. 11 hours.

To the westward of *Dunge Nefs*, about 8 miles, lies *RYE*, a Bar Harbour, but where the water rises 3 or 4 fathoms. On the East side going in, there are two white Beacons on the stony Beach, which you are to keep in one, till you bring also in one two others on the West side, which are the leading marks. When you are in the Harbour, you will have no less than 15 and 16 feet at low water. About one league and a half to the westward of *Rye*, is the High Land, and Point of *Farleigh*, or *Fairlight*, whose coast is very foul, a mile off. To the N. E. of *Beachy Head* above 3 miles, is the town of *EASTBOURN*. You may anchor to the Southward of it, in 6 or 7 fathoms, and be sheltered from westerly winds: in observing not to go so far north as the town, you will avoid the *Foul Ground* which lies to the eastward of it.

As you sail from *Rye* to *Beachy*, keep not very near shore, chiefly when you come athwart of *Pemsey* (*Pevensey*) for fear of the *RATTAN*, a small rocky shoal on which you have no more than 13 feet at low water, spring tides. On this shoal the *Kent Man* of War lost her rudder in 1718. It bears about E. N. E. from *Beachy*, and S. S. W. from *Pemsey Castle*, 2 miles from the shore.

* Since the 29th of September 1787, a light by night, and a flag by day, are hoisted on the *West Pier Head* of the *New Harbour* of *Rye*, whenever there is 9 feet water at the mouth of the *Harbour*, and the light at the entrance of the *Old Harbour*, has been discontinued since the 25th of December in the same year.

A breast of the *Higbland* of *Pemsey*, 2 leagues from *Beachy Head*, lies another shoal called *PEMSEY SHOAL*, or, *Royal Sovereign's Shoal*, which is foul and rocky, having but 14 or 15 feet at low water, in some places but 8; and 7 or 8 fathoms without: come no nearer it than 10 fathoms *Pemsey Castle* North, and *Beachy Head* W. N. W. you are a-breast of it.

Captain *Boys*, who commanded the *Royal Sovereign* when she ran a-ground upon this shoal, on the 2d of October, 1757, says, "*Beachy Head* bore then by compass, W. by N. a little westerly 6 or 8 miles; *Pemsey Church* exactly N. N. W. 6 or 7 miles; the white cliff within *Beachy* with five black streaks in it, and a chalk pit were very remarkable, the chalk pit having a white way close by it; when the easternmost streak on the cliff, and the westernmost part of the chalk pit were in one, seen from the quarter-deck, the ship was a-ground. *Pemsey Church* N. N. W. 6 or 7 miles. The point of *Fairleigh* E. N. E. $\frac{1}{2}$ E. 11 miles. At the ship's bow $\frac{1}{4}$ less three; at the stern 4 fathoms water. This shoal lies about N. by E. and S. by W. in length about 50 or 60 fathoms, and about 10 in breadth. The south part of it is the shoalest."

Two leagues S. E. by S. from *Beachy Head* lies the *HORSE OF WILLINGDON*, another dangerous sandy shoal, having but 17 feet at low water, and 15 or 18 fathoms near it. The *Nassau* man of war lost her rudder on this shoal.

From *Beachy Head* and *Dunge Nefs*, the best course to clear the Channel in the midway, between *Portland Bill* and the *Caskets*, is W. S. W. and W. by S. nearly. The tide in the mid-channel set much about the same points.

SECT. V. From *Beachy Head* to *Dunnose*—*Cuckmore Haven*—*New Haven*—*Shoreham*—*Arundel*.

From *Beachy Head* to *Dunnose*, the course is W. by S. about 19 leagues. From *Beachy* to *Selsey Bill* the coast extends 14 leagues, in a curve, which runs from W. by N. to S. by W. and near the *Bill* S. S. W.

In this extent are several small Bar Harbours, viz. *CUCKMORE HAVEN*, about 4 miles to the westward of *Beachy*, not having above 6 feet at low water, and 13 or 14 at high tide. This place is sometimes by storms stopped up with the beach, and by great land floods

is opened again. *New Haven*, 5 miles further to the West, is in all respects much like to this.

NEW SHOREHAM, which lies 6 leagues $\frac{1}{2}$ to the westward of *Beachy*, is better than *Cuckmore* or *New Haven*; it has 18 feet at high water, spring tides, but no more than 3 at low water. The town of *Shoreham* lies almost a mile within the Haven: and vessels that draw but 8 or 9 feet, can lie afloat a little below it, or else they lie dry every where. In coming from *Beachy Head*, along by the shore, you may open the Haven before you are athwart of it; but when you sail from the westward, you won't open it till you come right against it, because the West Point lies somewhat farther out than the East Point. From the East Point stretches a little tail, over which you may cross at high water; otherwise you must run in by the East shore. Upon the East Point stand two Beacons, which you bring in one, and so push in right for them, till you come by the North shore, along which you run into the Harbour. Four miles eastward of *New Shoreham*, lies *BRIGHTHELMSTONE*; there are many vessels belonging to this place, which they heave up with crabs on the dry beach.

ARUNDEL lies 10 leagues to the westward of *Beachy Head*, and has a good Pier. A ship may go into this Harbour at half flood. In the entrance there are 2 fathoms, and between the lands, 3 fathoms at high water; but within the Haven you have 4 or 5 fathoms at low water. Between *SEAFORD* (about a league to the eastward of *New Haven*) you will find very good shoalings, especially as far as *Shoreham*. You may stand to the shore in 7 or 8 fathoms, and good ground to anchor, if occasion does require; but to the westward of that is a flat off the shore, where you will not have above 6 or 7 fathoms, a league or two from the land.

S E C T. VI. *From Beachy — East Barrow or Borough Head—the Sea-Owers—the Park—Looc Stream—New Floating Light—Dunnose.*

From *Beachy Head* to the *Owers* and *East Barrow Head*, the course is W. by S about 13 leagues. *EAST BARROW HEAD* lies about $3\frac{1}{2}$ leagues S. W. by S. from the mouth of *Arundel Harbour*; there are but 10 feet water upon it, and in one place it dries at low water, spring tides, near a furlong in length. When you are a-breast of the *East Barrow Head*, the *White Way* on *St. Rook's Hill*, and *Pag-*
ham

ham Trees will be in one; or *Arundel Valley* North, and *Dunnofe W.* by S. Another good mark is to bring *Chichester Church* (a large spire steeple) on the *Trees* N. N. W. The said church open of the *Trees* N. by W. or N. N. W. $\frac{3}{4}$ N. will carry you safe into the *Park*; (a Road between *Selsey Bill* and the *East Barrow Head*) where you find gradual soundings from 18 to 15, 12, 9, 6 fathoms, and so decreasing to the shore. You have better anchoring in this road than in the *Downs*, in 4 and 5 fathoms water, good ground; *Selsey Bill* bearing N. W. or N. W. by W. distant between 2 or 3 miles.

To sail out of the *PARK*, through the passage between *Selsey Bill* and the *Owers*, called the *Loose Stream*, you must keep the westernmost Beachy Point of *Selsey Harbour* on *Pagham Church* till you open *Semi* and *Seminot* (on the *Isle of Wight*) with *Culver Cliff*, which must be kept a little open to run through. In the *Stream* you will have at least 5, 6 and 7 fathoms water; but when you have 10 fathoms, you are westward of the rocks, *Chichester Church* being on a house called *Medmery*, which is to the westward of the *Mill*.

The *OWERS* are hard black rocks, to the southward of *East Barrow Head*, with which they are joined by a rocky ledge 7 or 8 feet under water. The length of the *Owers Shoal* is about 2 leagues E. by N. and W. by S. being narrow in the middle, dry in some places, and steep to. Upon the *Owers* there runs a prodigious tide, which at the flood sets direct from *Dunnofe*, and at the ebb runs the contrary way. Some people reckon 12 or 14 fathoms water a good distance from the *Owers*, but it is safest not to approach them nearer than 16 or 18 fathoms. The *Culver Cliff*, called also *Swan Cliff*, being W. N. W. of you, you will be two miles without these rocks. When you are a-breast of the *Owers*, *Chichester Spire*, will bear N. E. by N. of you; or *St. Rook's Mill* (on the *Downs*) upon the tree N. $\frac{1}{4}$ W. Then you may steer away W. N. W. or N. W. for *Spithead* or *St. Hellen's*, clear of the *MIDDLE GROUND*, and *PULLER*, which are the Western end of this shoal.

"The great reason (says Captain *Collins*) why so many ships have fallen in on these shoals is, the great indraught of the tide setting strong in *St. Hellen's* 8 hours or more; the latter part of the flood sets into *St. Hellen's*. My advice is, that when you are near this place in the night time or thick weather, you should be careful and keep your lead well. In little winds or calm, you shall be drawn in here to admiration by the strong indraught, which if you find, anchor in time."

A FLOATING LIGHT has been placed in 1788, near the *Owers*, with the following Marks and Bearings per compass, the variation being 23 deg. 45 min. West.

BEARINGS.

BEARINGS.

Selfey Bill N. W. by N. $\frac{1}{4}$ W. nearly 4 $\frac{1}{2}$ miles distant—The south end of *Culver Cliff*, in the *Isle of Wight*, W. $\frac{1}{4}$ S. 16 $\frac{1}{4}$ miles distant—*Dunnose* W. S. W. $\frac{3}{4}$ W. 20 $\frac{1}{2}$ miles distant—The *Southmost extremity* of the *Elbow of the Owers* S. E. by E. nearly 2 miles distant—The *East Borough Head* N. E. by E. $\frac{1}{4}$ E. nearly 2 miles distant—The *Boulder Bank*, (or *Puller*) W. $\frac{3}{4}$ N. nearly 4 $\frac{1}{4}$ miles distant—The *West End* of the *West Head Shoal* N. E. by E. $\frac{1}{4}$ E. 616 yards distant—The *East End* of the *Middle Ground* W. S. W. $\frac{3}{4}$ W. 726 yards distant; and the *Swatch-way*, between the two last-mentioned shoals, is nearly $\frac{3}{4}$ of a mile wide, and the least water in it, from 5 to 6 fathoms.

The *Light* lies about midway between the *West End* of the *West Head*, and the *East End* of the *Middle Ground*, on about 6 fathoms, the least water, pretty clear ground.

MARKS.

At the *Owers Light*, the *Little Spire Church* on *Hayling Island*, called *Southwold Church*, though more commonly *Hayling Church*, is apparently about mid-way between the middle, and the S. W. sides of the remarkable large *Chalk Pit*, on *Portsmouth Hill*, near *Portsmouth*, and bears N. W. $\frac{1}{4}$ W.—The other Mark is *Selfea Church*, about twice its apparent length, to the westward of the *White Way* on *Bow Hill*, near *Chichester*, and bears N. by W. $\frac{1}{2}$ W.

If you are going down without the *Owers* the course to *DUNNOSE* is W. by S. 3 miles in rounding *Dunnose* towards *St. Hellen's*, you must keep *St. Catherine's Point* open, till you open *Sandown Castle*, of *Culver Cliff*; this Mark will carry you clear of the foul ground in *Sandown Bay* where ships frequently stop, in 8 or 9 fathoms. From *Dunnose*, about 3 miles S. E. there is a *Small Bank*, with 10 fathoms on the greatest part of it, where you may also stop tide, in light winds, the ground being sandy, and free from rocks. The ebb sets strait from that bank to *St. Catherine's Point*.

S E C T. VII.

Instructions for Sailing in and out of Spithead, by a Master in the Royal Navy.

(The Courses and Bearings are per compass; the variation being 23 deg. 30 min. in 1786.)

P A R T. I.

Spithead and Portsmouth — Chichester Harbour —
 Princeſſa Shoal—Dean Sand—Betty's Ledge—Nab
 Rock — Long Rock — Warner Sand — Noman's
 Land — Edgar Buoy — Royal George's Wreck—
 Sturbridge and Mother Banks, &c.

Sailing into *Spithead* from the Eastward, take care, to avoid the *East Barrow Head* and the *Owers*, to keep *Dunnoſe* W. N. W. until *Chicheſter Spire* comes in one with *Medmery Houſe*, or until the *Culver Cliff* bears N. W. then ſteer N. W. N. W. by N. or N. N. W. according as you have the wind and tide, until you fall in with the S. eaſternmoſt Buoy on *Chicheſter Sand*, or the Buoy of the *Dean*. You muſt leave them on the ſtarboard ſide, and ſteer N. W. by N. between the Buoys for *Spithead*. The beſt place for merchant ſhips to anchor at *SPITHEAD*, is to bring the *Kickergill Tower* N. W. by N. and *South Sea Caſtle* E. or E. $\frac{1}{2}$ S. in 7 fathoms water; men of war chuſe to anchor further out in deeper water. The leading mark into *Spithead* is, *Aſhdown Tower* on the *Iſle of Wight*, juſt in ſight above the Trees on the Iſland; the other mark is *Kickergill Tower* on the S. E. Baſtion of *Monkton Fort*; but as this mark is often obſtructed by the ſhipping at *Spithead*, I would recommend the former mark, which in clear weather is always to be ſeen.

If you ſhould intend to fail over the *Bar* into *CHICHESTER HARBOUR*, you muſt bring *Bosham Church* (having above one league offing) a little to the weſtward of the *Middle*, between the two points of the Harbour: this mark will carry you into the *West Deeps*, in which

which you may anchor in 5, 6, and 7 fathoms water. But in sailing up to *Chichester*, the *Gardiners* being in the way, which dry at low water, spring tides, to go round their head, steer directly to the middle of *Thorney Isle*, until the chimney of a house at *Snow Hill*, be brought on *West Wittering Church*: or, to go through the *Stedway*, at tide time, bring *Bosham Church* on the *Mill at Rook's Hill*, and you will have 2 fathoms at half flood.—N. B. That the *Bar of Chichester Harbour* is shifting.

On your course from the West end of the *Owers* to the S. E. Buoy on the *DEAN SAND*, you will have 10, 9, 8, 7 and 6 fathoms water, until you draw near the Buoys, when you deepen the water to 12 fathoms; and between the Buoys you will have 17 fathoms, shoaling gradually until you arrive at *Spithead*. Additional Buoys having been lately laid down at *Spithead*, and others being removed, a description of the actual Buoys, with their marks, is necessary to direct the navigator. And, first, in sailing in from the Eastward, there are five black Buoys laid down on the *Dean*, the *Horfe*, and *Spit Sand*, all of which must be left on the starboard side. In sailing into *Spithead*, the first Buoy you fall in with, is called the *Buoy next East of the Dean Buoy*; it is laid down in 27 feet water, sandy bottom, and its marks are, first, the *Platform Flag-staff* at *Portsmouth*, a little open to westward of the *Round Stone Sentry Box* of *South Sea Castle*, bearing N. $20^{\circ} 5'$ W. or N. by W. $\frac{3}{4}$ W. Second mark, *Archdown Tower* on with the middle of the southwardmost of the two Clumps of Trees at *Priory house*, on the *Isle of Wight*, bearing S. $86^{\circ} 30'$ W. or W. $\frac{1}{4}$ S. Third mark, the East end of the large *Chalk Pit* on *Portsmouth Hill*, is on the West end of the Ramparts of *Eastney Fort*, bearing N. $1^{\circ} 15'$ E. or N.

The second Buoy, which is the *Dean Buoy* (black) is laid down in 27 feet water, and its marks are, first, *Mr. Clerk Jerwois's Folly* or *Summer House*, in one with the East extremity of the Eastmost Bastion of *Cumberland Fort*, bearing N. $30^{\circ} 0'$ E. or N. N. E. $\frac{3}{4}$ E. N. B. This *Summer House* is the high White Tower on the East end of *Portsmouth Hill*. Second mark, the *Belfry*, or *Cupola*, on the New Store-house Clock in the Yard, is on with the S. W. corner of the *New Turf Redoubt*, which stands on the shore, a little way to Eastward of *South Sea Castle*, bearing N. $11^{\circ} 30'$ W. or N. by W.

The third Buoy is the S. E. most on the *Horfe Sand* (black) which is laid down in 27 feet water, gravelly bottom; its marks are, first, the *White Tower* on the shore at *St. Hellen's*, in one with the N. W. side of the largest and N. W. most *Chalk Pit*, on *Brading Down*, bearing S. $84^{\circ} 50'$ W or W. $\frac{1}{2}$ S. Second mark, *Cumberland Fort Flag Staff*

is a little to the Westward of *Portsmouth Windmill*, or that Windmill is on the West end of the Barracks in *Cumberland Fort*, bearing N. 20° $32'$ E or N $\frac{1}{4}$ E.

The fourth is the *Elbow Buoy* (black) this Buoy has been removed from its former place, and is now laid down in 24 feet water; its marks are; first, *the Cupola*, or *Dome of the Academy* in the Dock Yard, on with the round Stone *Sentry Box* in the Southwardmost Bastion on *South Sea Castle*, bearing N. 30° $0'$ W. or N. $\frac{1}{4}$ W. Second mark, *Bembridge Windmill* is on with the middle of the Red-tiled Public House, near the shore at *Bembridge*.

The fifth is the Buoy of the *Spit* (black) this Buoy has been likewise removed, and is now laid down in 24 feet water; its first mark is the mark in *Gosport*, for sailing into PORTSMOUTH HARBOUR, on with the 5th Embrasure on *Blockhouse Battery*, (reckoning Northward from the Flagstaff) bearing N. 130° $0'$ W. or N. by W. $\frac{1}{4}$ W. Second mark, the large Brick House on *Portsmouth-Hill*, next East of the little White Watchhouse, and Windmill, is on with the round *Sentry Box*, on the Southwardmost Bastion of *South Sea Castle*, bearing N. 34° $0'$ E. or N. E. by N. When you are at the fifth Buoy, if you intend to go into PORTSMOUTH HARBOUR, bring the Beacon lately erected in *Gosport*, in one with *Block House Point*, and this will carry you into it, leaving on your Starboard hand the two Buoys placed on the *Outer Spit*.

The Buoy of the *EDGAR* lies almost in the Fair-way to *Spithead*, nearly West of the fifth Buoy just mentioned; it is a Red Buoy placed on the wreck of the *Edgar*.

In sailing from the Westward into *Spithead*, there lies in the way a Rocky Shoal, on which his Majesty's ship *Princessa*, and some other of the line-of-battle ships have struck, therefore care must be taken with a large ship to avoid it. It has been lately surveyed, and is now pointed out by two Buoys, a White Buoy on the N. W. extremity, and a Black Buoy on the S. E. extremity; its extent is $\frac{2}{3}$ of a mile N. W. by N. and S. E. by S. and it has from $4\frac{1}{2}$ to $\frac{1}{4}$ less 4 fathoms on it. At its S. E. extremity, where the Black Buoy is laid down in 28 feet. *Dunno Point* bears S. 77° $10'$ W. or W. S. W. $\frac{3}{4}$ W. distance eight miles, *Culver Cliff* N. 67° $37'$ W. or W. N. W. distance three miles, and *Bembridge Point* bears N N. 22° $30'$ W. distant $2\frac{1}{4}$ miles. At the N. W. extremity of the Shoal, where the White Buoy is laid down in 32 feet water, *Dunno Point* bears S. 65° $10'$ W. or S. W. by W. $\frac{3}{4}$ W. distant about $7\frac{1}{2}$ miles; *Culver Cliff* bears N. 80° $27'$ W. or W. $\frac{1}{4}$ N. distant about 2 miles, and *Bembridge Point* bears N. 15° $20'$ W. or W. by N. $\frac{3}{4}$ N distant about $1\frac{1}{2}$ miles.

Now to avoid this Shoal, called PRINCESSA SHOAL, in case the Buoys are broken away or taken up, and to sail to the Southward of it, steer from *Dunno* E. by N. or East, according as you have the wind

wind and tide; and when you draw near the *Culver Cliff*, you will observe a *Red Clay Cliff*, between the S. W. extremity of the white chalky part of the *Culver Cliff*, and *Sandown Castle*; be careful to keep this *Red Cliff* about a quarter of a cable's length open, to Southward of the S. W. extremity of the *White Culver Cliff*, until you have brought the Westernmost, and smallest Chalk Pit on *Portdown-Hill*, to the Eastward of *South Sea Castle*; then you are sure to be to the Southward and Eastward of this shoal, and may steer N. N. E. or N. for the Buoy of the *Nab*. There is likewise a Channel, between the N. W. extremity of *Princessa Shoal*, and the Buoy on *Betty's*, or the East extremity of *Bembridge Point*, which channel should be used with N. W. or Northerly winds, in sailing into *Spithead*, as it will carry ships a mile and a half to windward.

The marks for the *Black Buoy* on the *Princessa Shoal* are, first, the high Square Tower on *South Sea Castle* in one with the East end of the Westernmost, and *Smallest Chalk Pit* on *Portdown-hill* (which Chalk Pit is above half a mile to Westward of the *Great Chalk Pit*) bearing N. $2^{\circ} 0'$ E. or N. $\frac{1}{4}$ E. Second mark, the *Red Clay Cliff* that stands a little way to Westward of the white chalky part of the *Culver Cliff*, is just open, or about $0^{\circ} 30'$ open to Southward of the S. W. extremity of the *Culver Cliff*, and bears N. $68^{\circ} 3'$ W. or W. N. W.

The marks for the *White Buoy* on the N. W. extremity of the *Princessa Shoal*, are, first, the N. E. corner of the N. Easternmost Bastion of *Sandown Castle*, is just open of the high water mark of the S. W. extremity of the *Culver Cliff*, and bearing W. $\frac{3}{4}$ N. The Second mark, is the high square tower of *Porchester Castle*, near twice its apparent breadth, to the Eastward of the East extremity of trees on *Portsmouth Lines*, and bearing N. $7^{\circ} 35'$ E. or N. $\frac{1}{4}$ E.

The next danger in sailing into *Spithead* from the Westward, are 1st, *BETTY'S LEDGE*, or the East extremity of *Bembridge Ledge* (on which there is now a Black Buoy placed) in 24 feet water) and, 2d, the *NAB ROCK*, where the Red Buoy of *Bembridge Ledge* is removed to.

The marks for the Buoy of *Betty's Ledge*, are, first, the Easternmost *Brick House* on *St. Hellen's*, called the *New Inn*, on with *Red Cliff Point*, and bearing N. 49° W. or N. W. $\frac{1}{2}$ W. Second mark, the high square tower of *Porchester Castle* on with a round stone *Sentry Box* on the South corner of the Southernmost bastion of *South Sea Castle*, bearing N. $6^{\circ} 3'$ E. or N. $\frac{1}{2}$ E. Very large Ships should not attempt to sail between this Buoy and *Bembridge Ledge*, especially at low water, but they may with great safety sail between this Buoy and the White Buoy on the *Princessa Shoal*, and likewise between this and the *Nab Rock Buoy*.

The *Nab Buoy* is laid down in 23 feet water, and bears E. by N. about $\frac{3}{4}$ of a mile from the Buoy on *Betty's Ledge*: its marks are *Portdown Wind Mill* on with, or rather open to Westward of the Westernmost of the two houses on *Eastney Fort*, bearing N. 14° E. or N. by E. $\frac{1}{4}$ E. Second mark is a chalk pit on the high land of *Dunnose*, the North side of which is nearly on with the South side of a large farm

farm house at *Shanklin*, called *Shanklin Farm*; this house appears about twice the height of the *Culver Cliff*, open to Southward of the *Cliff*. N. B. About $\frac{2}{3}$ of a mile N. $\frac{1}{2}$ E. nearly in the direction of the *Warner Buoy*, from *Betty's Ledge Buoy* there is a rocky shoal, named *Long Rock*, on which there is 23 feet water, with the lowest spring tides. Therefore line-of-battle ships in sailing from *Betty's Ledge Buoy*, at low water, spring tides, should not steer directly for the *Warner Buoy*, until they have passed this shoal. When *Dunnose* is shut in by *Bembridge Point*, they are to the Northward of *Long Rock*; and when *Portchester Castle* is open to the Eastward of the high square tower on *South Sea Castle*, they are to the Eastward of it.

From the *Black Buoy* on the S. E. extremity of the *Princessa Shoal*, the *White Buoy* on it bears N. W. by N. distance $\frac{2}{3}$ of a mile, and the *Black Buoy* on *Betty's Ledge* N. $3^{\circ} 35'$ West or N. $\frac{1}{4}$ W. distance $1\frac{1}{4}$ miles the *Nab Rock Buoy* N. N. E. The *White Buoy* on the N. W. extremity of the *Princessa Shoal*, and the *Black Buoy* on *Betty's Ledge*, bear from each other S. S. W. and N. N. E. distant 1 mile; and the *Nab Rock Buoy* bears from the above *White Buoy* N. E. $1\frac{1}{4}$ miles.

The next danger to be avoided is the *WARNER SAND*, on the East side of which is placed a *White Buoy* in 30 feet water; its marks are the New Spire of the Clock in *Portsmouth Dock Yard*, in one with the Spire of *Portsmouth Church*; and *Kickerhill Tower* on the S. E. angle of *Monkton Fort*, and *St. Hellen's Church* on *St. Hellen's Point*.

The next is *NOMAN'S LAND*, on which a *White Buoy* is placed in 39 feet water; the marks for this *Buoy* are, the Northernmost and largest Chalk Pit on *Bradding Down*, the N. W. part of which is on with two Red Farm Houses close by the water side, bearing S. W. $\frac{1}{2}$ W. these houses stand in a valley to the Northward of *St. Hellen's Point*. There is a very remarkable white Road way, on the East end of *Portsmouth Hill*, which apparently runs in a S. E. and N. W. direction; the N. W. end of this roadway is on with the high tower of *South Sea Castle*, and the New Spire of the Clock in the Dock Yard, is in one with the Victualling Office at *Portsmouth Point*.

The Buoys you meet with on the larboard side, in sailing into *Spithead*, are the Buoys of the *STURBRIDGE BANK*.

This Bank is the eastern part of the *MOTHER BANK* where merchant ships generally anchor. On the outer edge of the *MOTHER BANK* there are 7 fathoms; and the common anchorage is in 5, and 6 fathoms, out of the Stream of the tide, in a good holding ground, clear of rocks, where you are sheltered from Southerly winds.

There are two *White Buoys* laid down on the *Sturbridge Bank*, one on the S. E. and one on the N. W. end; the S. E. *Buoy* bears from the *Buoy of Noman's Land* N. W. about $1\frac{1}{2}$ miles distant; and the two Buoys on the Bank bears from each other N. W. by W. and S. E. by E. about 1 mile distant.

About $\frac{1}{2}$ a mile N. N. E. from this S. E. *Buoy of Noman's Land*,
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lies the WRECK OF THE ROYAL GEORGE, whose mark is *Blockhouse Point* and *Trees* in one. The marks for the N. W. Buoy of the *Sturbridge Bank* are *Portsmouth Windmill* on with the *Belfry*, or *Cupola* of *Hasslar Hospital Chapel*, bearing N. $48^{\circ} 40'$ E. or N. E. $\frac{1}{2}$ E. Mr. *Clerk Jerbois's* high white *summer house* on the East end of *Portsmouth Hill*, is a little open to the Eastward of the East end of the Governor's house at *Portsmouth*, bearing N. $62^{\circ} 0'$ E. or N. E. by E. $\frac{1}{2}$ E.

PART II.

Stokes Bay—*The Middle*—*The Bramble*—*West Cowes*
— *Yarmouth* — *Warden Ledge* — *Needles Point* —
The Bridge — *The Two New Light Houses*, &c.

There are two Black Buoys on the MIDDLE, bearing from each other N. W. $\frac{1}{2}$ W. and S. E. $\frac{1}{2}$ E. The marks for the N. W. Buoy of the *Middle*, which is laid down in 15 feet, are, first, the High Tower of *South Sea Castle* on with the North extremity of the Northernmost bastion of *Monkton Fort*, bearing S. $70^{\circ} 15'$ E. or S. E. $\frac{1}{4}$ E. then the South Gable of the large double house, which stands near the water side, between *West Cowes* and the *Wooden Storehouse*, near the Ferry between *East* and *West Cowes*, (and where the road to *Newport* turns up the hill,) is on with the high water mark of the low *Beachy Point* where the rope walk is a little to the Westward of *Old Castle Point*, and bears S. $78^{\circ} 0'$ W. or W. by S. Between this Buoy, and the East Buoy of the *Bramble*, is the channel commonly used in sailing from *Spithead* through the *Needles*; but Ships often sail to Southward of the *Middle*, and I think that channel equally good. The marks for the East Buoy of the *BRAMBLE* are the West side of *Hamble Church Tower* on with *Hook Summer house*, bearing N. $5^{\circ} 0'$ W. or N. $\frac{1}{2}$ W. And the South side of the *Hospital Water Engine* just open to the Northward of the North side of *Kickergill Tower* bearing S. $65^{\circ} 0'$ E. or S. E. by E. $\frac{3}{4}$ E. between the last Buoy of the *Bramble*, and the West Buoy of the *Middle* there is also a channel to sail into *Southampton Water*.

In sailing from *Spithead* to the Southward of the *Middle*, steer in for *STOKES BAY*, until you bring *South Sea Castle* a sail's breadth open to the Southward of *Stokes Point*, with these marks proceed until you open *West Cowes Castle* of *East Cowes Point*, then steer for *West Cowes Point*, giving it a birth.

To sail from *Spithead* between the *Middle* and *Bramble*, you must steer into *Stokes Bay* until you bring *South Sea Castle* a sail's breadth open to the Northward of *Monkton Fort*; this mark will carry you between the Buoys; then you may proceed as before, and when you are
a rived

arrived at *West Cowes Point*, steer W. or W. $\frac{1}{2}$ N. keeping nearest the island side until you get as far as *Yarmouth*; then steer over for *Hurst Castle*, to avoid the *WARDEN LEDGE*, on which there is a Buoy. The thwart mark for this ledge is the *Cupola* and *Flagstaff* on *Hurst Castle* in one, and the mark to carry you clear of it, is to keep the vanes of the windmill on the island in sight. From *Hurst Castle* to the *NEEDLES POINT*, the course is W. S. W. and E. N. E. but you must be careful of the tide, as the flood sets strong on the island, and the ebb on the *SHINGLES*: the tide runs between *Hurst Castle* and *Sconce Point*, at the rate of 6 miles an hour, spring tides, therefore ships must not attempt to sail against the tide, except they have a fresh breeze of wind.

From the *Mother Bank* being bound to *West Cowes*, you may run along the edge of the bank, in 6 or 7 fathoms, very regular soundings, and then anchor in *WEST COWES ROAD* from 10 to 12 fathoms. In going from thence to *Yarmouth* the course is nearly S. W. about 10 miles; the shore of the island, being quite clean, except two small rocky ledges which run off from *West Cowes* and *Hamstead Point*, one or two furlongs. When turning to windward, you may stand to the main as near as 6 or 7 fathoms, and to the island, which is the best side, as near as 8. Though the whole of *Yarmouth Road* is good holding ground, you ought to prefer the east side near the shore, where the strength of the tide cannot reach you. The tides are both strong and irregular in this road, as well as in *West Cowes Road*, so that when ships are riding at single anchor, if great care is not taken, they may break their sheer, and bring home their anchor. Observe that between the two places, vessels may stop tide any where, and the nearer they lie to the island, the less they will be exposed to the stream of the tide. From *Yarmouth Road* to go out through the *Needles*, you steer for *Hurst Castle*, and then proceed as above.

Sailing over the *BRIDGE*, that is the *Flat* between the East end of the *Shingles* and the *Needles Point*, the deepest water is $5\frac{1}{2}$ fathoms, and a good way from the *Needles Point* you have only three fathoms. The best mark to sail over the *Bridge*, in the deepest of the water, is a remarkable Clump of Trees that stand to the Westward of *Sconce Point* on the island, in one with *Sconce Point*.—There are now Two *LIGHT HOUSES* to direct the sailing in and out of the *Needles*; the one is on the Beach, a little to Northward of *Hurst Castle*, and the other is on the top of the high Chalky Cliff, within the *Needles* on the Island. *Hurst Castle Light House* being N. E. by E. $\frac{1}{4}$ E. by compass, gets you clear of the *Shingles*, and carries you safe over the *Bridge*.

When you sail in by the *Needles*, you must observe that there is a strong indraught setting in at the *Needles*, and into *Pool*, which has hauled many vessels into *Freshwater Bay*; but you need not fear it if you keep in 25 and 30 fathoms.

In turning out of *Spithead* with large ships, be careful not to stand to *Noman's Land* or the *Warner* to shoal your water, as these Banks are very steep to; you will have in the Channel between the Buoys 17,

16 and 15 fathoms, until you get without the Buoy of the *Warner*. If in the night-time you are turning out, you will know when you are the length of the *Warner Buoy*, by having the *Valley at St. Hellen's* open, and being so far out as to have the *Calver Cliff* West, you are sure to be without *Bembridge Ledge*. When you deepen the water to 20 fathoms, you may steer a Channel Course, either to Eastward or Westward; but if you are bound to the Eastward, be careful before you get the length of the *East Borough-head* to deepen your water to 24 or 25 fathoms, as you will have 22 fathoms, not a cable's length from the rock.

The course from *Spithead*, with a fair wind out (between the Buoys) is S. E. by S. but it is necessary to observe that the tide of flood sets E. S. E. between the Buoys, and the ebb N. W. by W. therefore in sailing out with a flood tide and little wind, between the Buoys you will have to steer S. by E. South, or S. by W. with the ebb the contrary.

S E C T. VIII.

The Flowing of the Tides at Spithead, and the adjacent Shores and Harbours.

At *Selfey Bill* it flows, at full and change, 9 h. 35 min. and in *Selfey Harbour*, and along shore, S. by E. or 11 h. 15 min. but on the *Sea Owers, Puller, Mixon, &c.* and through the *Looe*, the flood sets but till 9 h. 36 min. the tide setting E. by N. which is direct from *Dunnose*, and upon the ebb, the reverse. It also flows up and down, 15 feet at spring tides, and 10 feet at neap tides.

In the *Park* the tide flows, full and change, S. E. or 10 hours 30 min. It flows little better than 4 hours, and ebbs near 8.

In *Chichester* and *Langstone Harbour* it flows, at full and change, near S. by E. 11 hours 30 min. but without, and in *St. Hellen's Road*, the flood runs but till 9, or S. E.

At *Spithead*, it flows 9 hours 30 min. and in *Portsmouth Harbour* 11 hours 36 min. When it is half flood in *Portsmouth Harbour* it is high water at *Spithead*. Note, that the three last hours of the ebb, it runs out to the eastward, and the three last hours of the flood, to the westward between the Buoys. There is but little tide in *St. Hellen's Road*; but between the Buoys it runs strong.

In *Cowes Road* it flows S. S. E. or 10 hours 15 min. and at the *Needles Point* S. E. by E. or 8 hours 15 min. The flood setting direct from *Hurst Castle* to *Cowes Point*, then to *Gilkicker Point*, and from thence

thence S. E. between the Buoys in the channel, and so S. E. by E. direct to *Looe Stream*. The ebb runs reverse.

In the harbours of *Selsey*, *Chichester*, *Langstone*, *Portsmouth*; and in the rivers of *Southampton*, *Newport*, *Beauley*, *Lymington*, &c. the flood without, is called the *Lay Tide* within, it running in slowly; but as soon as the ebb, or western tide is made without, it flows fast in these harbours and rivers, and the tide sets in very swiftly, especially into *Chichester*, *Langstone*, and *Portsmouth Harbours*.

In all these places it flows about 7 hours, and ebbs about 5. The raise at spring tides is 18 feet, at neap tides 12; except about *Cowes* and *Beauley River*, where you have 15 at spring tides, and 10 at neap tides. At *Lymington*, *Yarmouth*, and thereabouts, it flows 12 and 8 feet, whereas at the *Needles* it flows but 9 and 6, at spring and neap tides.

In *Christ Church* and *Pool Harbours*, the first flood, or proper high water is at 9 h. or S. E. then it ebbs an hour and a half, and flows as much, making the counter or latter flood at S. or 11 h. 45 m. then it ebbs till past 4; so that it flows with the counter flood near 7 hours, and ebbs about 5.

In *Studland Bay* and *Sandwich* it flows near S. E. 8 h. 45 min. but there being no counter or latter flood, and its ebbing as long as in *Pool Harbour*, the ebb lasts about 8 hours, and the flood about 4.

It flows up and down in these places 6 feet at spring tides, and 4 feet at neap tides, the counter flood raising 6 inches at spring tides, and 2 feet at neap tides.

The flood sets from *Durlstone Head* to *Christ Church Head*, and from thence over the *Sbingles* to *Sconce Point*, 2 leagues off. From *Durlstone Head*, the flood sets round *Dunnose*, where it flows 8 h. 56 min. but all within, setting into *Brixton*, *Chale*, and *Freshwater Bay*.

CHAP. VI.

Sailing from the Isle of Wight, towards Portland.

SECT. I. Swanage and Studland Bays—Pool.

FROM the *Needles* to *Durlstone Head*, the course is near W. S. W. about 5 leagues. PEVEREL POINT lies about a mile to the northward, from which a ledge of rocks runs about a mile E. by S. From *Peverel Point* to the westward, is the high land of *St. Aldan*, corruptly called *St. Alban*. All the coast between *Durlstone Head* and *St. Alban* is foul ground, with great overfalls; the shoalest is nevertheless free from danger, unless by anchoring.

Between *Peverel Point* and *Handfast Point*, is SANDWICH BAY, commonly called SWANAGE BAY, where the anchorage is tolerably good, with westerly winds, only the ground is not very clean. If you sail there coming from westward, you may take soundings of *St. Alban's Land*, and run by *Peverel Point*, in 4 or 5 fathoms at half flood, which will get you clear of the Ledge of rocks; then edge by it to the westward towards *Sandwich*. In the bay, a little to the northward of *Sandwich*, lies a round Hummock, and athwart of it, a little within the land, a Windmill; bring that mill on the south side of the Round Hummock, and sail in until you come into 4 or 3 fathoms water, and chuse your birth.

STUDLAND BAY, to the northward of *Swanage Bay*, affords very good anchorage in 5, 6, or 7 fathoms, by bringing *Handfast Point*, called also *Studland Point*, south of you to go into this bay. You must run in till you open the two rocks like the *Needles*, and bring them S. by E. Southerly, giving them a good birth; then you may luff up and anchor in 4, and $4\frac{1}{2}$ fathoms; there you will lie sheltered from all but outh and south east winds; and the current setting out of the bay, secures the ships in some measure from their effects.

POOL lies in a deep bay about 6 miles northwestward of *Studland Point*; it is a Bar Harbour, in which there are about 15 feet at high

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water,

water, but not to be attempted by a stranger without a Pilot, which you take in at *Studland Bay*. When once ships are in, they ride in any of the branches of the Bay, as safely and commodiously as can be desired. This capacious harbour lies in the midst between *Purbeck*, and the *Isle of Wight*, and is said to enjoy an advantage beyond all other ports perhaps in *Britain*, which is, that the sea ebbs and flows four times in 24 hours. First, with a S. E. and N. W. moon; and then by a S. by E. and N. by W. moon; this second flood is generally supposed to arise from the return of the fore-ebb, which coming from the *Sussex Coast*, between the *Isle of Wight*, and the main land of *Hampshire*, strikes in here as lying in its way.

SECT. II. Portland Bill — the Shambles — Portland Race — Portland Road — Weymouth, &c.

The course from the *Needles* to *Portland Bill*, W. by S. $\frac{1}{2}$ S. 11 or 12 leagues; and from *Dunnoſe*, about 16 leagues W. or W. by S. From *Dunnoſe* to *St. Aldan's Head**, the course is W. $\frac{3}{4}$ N. about 12 leagues. From *Durlstone Head* to the *Bill of Portland*, the course is W. by S. nearly, and about 8 leagues. On the *Bill* are Two LIGHT HOUSES which stand N. $\frac{1}{2}$ W. and S. $\frac{1}{2}$ E. the lowermost of which bears from the west end of the *Shambles* N. 50 deg. W. a little more than 2 miles, and from the east end N. 48 deg. W. about 4 miles and a half.

THE SHAMBLES are a dangerous shoal composed of coarse sand and shingles, extending E. N. E. and W. S. W. about 2 miles and $\frac{3}{4}$; they are shoalest towards their middle, where there are only 12 feet at low water, spring tides, and are steep all round. They have 3, 4 or 5 fathoms on their east end, and 6 or 7 on the west end. The marks given by Captain *Collins* to avoid the *Shambles*, carry you on

* At *Seacombe*, or *Salcombe Cliff*, two miles and a half to the east of *St. Aldan's Head*, the *Halfswell* outward bound Indiaman, Captain *Richard Pierce* was lost, on Friday the 6th of January 1786. The Pilot had left the ship on Tuesday the 3d at noon, after which she sailed down the channel, with a fair wind, till about 4 o'clock on Wednesday morning, when a very hard gale, with a heavy fall of snow, came on, by which the ship received so much damage, as to admit 6 feet water in the hold. About 11 o'clock on Wednesday morning, when they thought they were between the *Lizard* and *Start Points*, they cut away the main and mizen-masts, then wore ship, and endeavoured to make *Portsmouth*, under jury-masts. They stood up the Channel on Wednesday afternoon, and all the day on Thursday. In the afternoon of the last-mentioned day, a heavy gale blew from the South, which by degrees drove them on a lee-shore, in spite of all their endeavours to avoid it. Between one and two o'clock on Friday morning they saw land, and came to an anchor, at which they rode about an hour, but having either driven or parted, they then let go the only anchor left them, with which they were unable to bring up the ship, as the hurricane continued to increase. In this state the vessel drove upon the rocks at the headland of *St. Aldan*, and in less than an hour was dashed to pieces.

the east end of them, from which it is conjectured that this Bank has shifted since the time of his survey. But it has occasioned his Majesty's ships *Rippon* and *Magnanime* to ground on them lately, when they must inevitably have been lost had it been bad weather.

THE RACE OF PORTLAND is a great rippling of the tides, caused by the unevenness of the ground at the bottom, called *Overfalls*, which shoal in some places, to 7 fathoms, then to 10, 15, &c. When the sea is high, and the tides strong, it breaks in great seas, and a stranger would think that there is shoal water. The *Race* is not always in the same place, being near two miles off the *Bill of Portland*, and beginning about one mile to the eastward of it with a northerly wind; whereas it is but one mile off the *Bill* with a south easterly wind, and its beginning not $\frac{3}{4}$ of a mile to the eastward of that point.

THE ROAD OF PORTLAND is an excellent Road with westerly and southerly winds. To sail into it you may pass to the eastward or westward of the *Shambles* as you chance to fall in. The north east point of *Portland* and *Wyke Church* in one, will carry you clear of the east end of the *Shambles*; whereas the old mark, which is the north east point of *Portland* and *Weymouth Castle* in a line, carries you on the said east end in 4 fathoms; you then haul in for the *Road*, giving the point a birth, and anchor against *Portland Castle*, bringing the easternmost part of *Portland S.* by *E.* or *S. S. E.* of you; or *Weymouth Castle* open of the high land, and the easternmost part of *Portland* in sight South, (or rather a steeple a handspike's length above the *High Cliff of Portland*) in 8, 9, or 10 fathoms water, very good holding ground; or bringing the west side of the *Castle S. S. W.* of you, and *Wyke Church* about *N. W.* in 7 fathoms, which is the best anchorage.

In coming from the westward of the *Bill*, as soon as you see the Light Houses, if you are in the Bay, haul well out to the southward; when the Lights come on, you will be passing the *Race*, and by steering *E. $\frac{3}{4}$ S.* will avoid the *Shambles*. But if you think you cannot haul out to the southward of the *Race*, and have a strong south west wind, you may venture between the *Bill* and the *Race*, (if at a slack or ebb tide the better,) When you have ran *E. N. E.* about 3 miles, you turn into *Portland Road* and anchor as above.

But if it blows hard, and you should be embayed so much that you could neither come to an anchor safely, or bring the Lights on; then, if possibility appears, especially at the beginning of the ebb, run ashore directly with as much sail as you can carry on the *CHESIL BANK** between *Burton* and *Chefil*, which is very steep; when after

* The *Chefil*, or *Chifel Bank* or *Beach*, runs about 17 miles *N. $\frac{1}{4}$ he.* from *Chefil*, in *Portland* to *Burton Cliff*; and that part is by some called *Burton Bay*. The stones which compose this bank, lessen in size gradually to the westward from *Portland*. At *Chifel* and the *Passage*, they are of about the size of an egg; opposite *Fleet* and *Langston* they are much smaller; at *Beckington* they are scarcely bigger than peas;

having remained on board for a little while *, you may step on shore with great safety, taking care of the wrecks † along the beach.

The mark for the west end of the *Shambles*, is *Portland Old Church* open; but the Poor House, which stands in the middle of the island, on with the *New Church*, bearing N. by W. $\frac{3}{4}$ W. will carry you between the *Shambles* and the *Race*. The Two Lights in one are the mark for the east end of the *Race*. A barn, a little to the westward of *Weymouth Castle*, on with the east end of *Portland*, will run you on the middle of the *Shambles* in 12 feet water.

In the night, when the land-marks cannot be discerned, you must keep the *Lights of Portland*, N. W. by W. from you, until you bring the land on the east side of it, N. W. by N. and then haul in for *Portland Road*.

About 2 miles $\frac{1}{2}$ northward of *Portland Road*, lies WEYMOUTH, a Bar Haven, where at low water there are but 6 feet, and the tide rises but 6 and 7 on a spring; within the bar is a small hole 9 feet deep at low water. The going in is to keep nearest the north shore. There is very good riding in *Weymouth Road* in 7 or 8 fathoms, about $\frac{1}{2}$ a mile from the shore.

It flows in the *Road of Portland* E. S. E. or 7 hours 30 min. Off the *Bill* 9 hours 15 min. Within the *Shambles* E. by N. or 6 hours 45 min. and up and down on the *Shambles* 10 feet spring tides. The flood sets right off the *Bill*, 9 hours.

Along the *Chefil Bank*, in *Burton Bay*, it ebbs 9 hours, and flows only 3; you will have 10 fathoms very near the shore; and with the Light Houses E. N. E. 20 fathoms.

and between *Swoyre* and *Burton Cliff*, where the Bank ends, it is entirely a fine sand. Underneath the pebbles is a firm black clay which appears when a strong S. E. wind blows. The bank is then swept from the one end to the other of the stones, and remains only of clay, till such time as S. W. wind blows, when the sea throws them up, and covers the bank again.

* Mr. *Adams*, who first mentioned in 1773 this desperate resource of running the ship on shore, thinks it sufficient to remain in her during three or four seas. "Mr. *Arnold*, in 1778, advises you to keep on board for 8 or 10 seas." "Be not too hasty [adds this gentleman] in getting on shore, as that has oftentimes proved fatal;" and we believe his advice must be followed, if it is possible not to be impatient in such distress.

† There lie several wrecks on the beach, among which the most remarkable is the wreck of a *Logwood ship*, about 3 miles eastward of *Burton Cliff*. This ship, after having been retaken by the *Culloden* man of war, was stranded there in 1758, and her boat thrown over the beach on a wall. Two miles and a half south eastward of this, is the wreck of the *Squirrel*, a tobacco ship, cast away in 1748, and most of the people drowned; above 3 miles further lies the *Esperanza*, a *Spanish ship*, out of which they saved 30,000 pounds in silver; and within a mile of *Chefil*, the *Zenobie*, a *French frigate*; this had 22 guns, and 210 men; had sailed from *Havre de Grace*, the 10th of March, 1762, and was ship-wrecked on the 12th: 71 men of her crew were saved, but the country people stripped every soul; and had not the humanity of Mr. *Taver* [a gentleman of *Portland*] interposed, they would have all perished. As soon as the misfortune of those people was made known to the King, he ordered that they should be immediately clothed at his expense, and sent back to their own country.

C H A P. VII.

From Portland to Plymouth,

S E C T. I. Lyme—Exmouth Bar—Torbay, &c.

FROM *Portland Bill* to *Berry Head*, the South Point of *Torbay* the course is W. $\frac{1}{2}$ S. and W. by S. 13 leagues.

The harbours between *Portland* and *Torbay*, are *Lyme*, *Exmouth*, and *Teignmouth*.

LYME or KING'S LYME, 8 leagues N. W. $\frac{1}{2}$ W. from *Portland*, is but a small Bar Harbour, quite dry at low water, but secured by an artificial island, called the *Cobbe*, which defends it from all winds.

EXMOUTH BAR, about 3 leagues to the northward of *Torbay*, is very dangerous, and not to be attempted by any but those who are exceedingly well acquainted: the going in is very narrow, having rocks on the east side, and sand on the west side. At low water there are but 6 and 7 feet on the Bar; but at high water 16 and 18. Here are always Pilots ready to come off. Being over the Bar, there is a place called *Star Cross*, where ships commonly ride afloat, in 10 and 12 feet at low water. But such ships as go up to the town of *Topham*, lie a-ground at low water, from whence their goods are carried up in lighters through sluices to *Exeter*. The course from *Exmouth Bar* to *Portland* is W. N. W. upon an ebb tide, distant 11 or 12 leagues; and a S. E. course will carry you clear of *Portland* in going to the eastward. Before *Exmouth* you may ride at the south end of the Beach, which lies before the Haven, in 7 or 8 fathoms; so that the rocks of *Toman's Stones* do bear S. and S. by E. of you; there you will have good ground, and lie land locked in southerly winds.

Teignmouth, scarce 5 miles S. W. by W. from *Exmouth*, is a Bar Harbour, and only frequented by some coasters and a few *Newfound-land*

land traders. In the *French* histories it is described as a great port; and a few fishing barks that were burnt there in 1690, are converted into frigates and men of war.

TORBAY, about 2 leagues to the westward, is a fine road, with westerly and S. W. winds, whose opening is 5 miles, between *Berry Head* to the South, and *Hope's Nose*, called also *Bob's Nose*, to the North: the ground is good and clear. In sailing into *Torbay*, you may keep close to either the *Berry Head*, or the *Mew Stone* at *Hope's Nose*, being bold to either side. There is a good passage between the *Mew Stone* and the *Main*, keeping in mid-channel. To anchor in *Torbay*, is from 6, 7, 8, or 9 fathoms water, good clay ground, bringing the *Berry Head* South, by S. E. or S. S. E. and *Brixham Church* on *Brixham Pier Head*, or *Painton Church* N. W. and N. W. by N. or bring *Berry Head* S. E. and S. E. by E. and the Valley over *Torkey* open. The best anchoring is about $1\frac{1}{2}$ mile from *Brixham Pier Head*, in 7 fathoms.

N. B. There are two places in the Bay, where small ships lie aground, *Brixham* on the south side, and *Torkey* on the north side.

Off *Torbay*, the tide flows full and change, S. E. by E. or 9 hours 45 min. but in the Offing, well to the southward, only E. S. E. or 9 hours.

SECT. II. Dartmouth—Start Bay and Point-Scary —Praul Point—Salcomb—Bolt Head, and Tail &c.

From *Portland* to the *Start*, a low rugged point rising from the sea high unto the land, the course is W. by S. $\frac{1}{2}$ S. or W. S. W. 16 or 17 leagues.

Between the *Start* and the *Berry Head* lies DARTMOUTH, a good safe harbour, but a narrow entrance, between two high lands, which makes it dangerous going in or out, except the wind is quite fair.

If the winds be either easterly or westerly, then the high lands off each side, cause overflows and calms, sometimes blowing in and presently right out again, which hinders a ship in turning, by putting her astray unawares. There are always boats ready to come off, which they call *Tow Boats*; these are very serviceable in towing ships, and without them it is hazardous to go in or out. The northerly winds blow right out, and the southerly winds right in.

Without the harbour's mouth is the road called the *Range*, where you may anchor in 7, 8, or 10 fathoms; but it is not safe to lie there any time, lest it should come to blow hard from the southward.

At the east end of the *Range* lies a *Sunken Rock*, the marks to avoid which are these: To the eastward of *Dartmouth* stands a Red Point, which below by the water, is black, and in the red lies a white stone; when the white stone comes over the Black Point, then you are athwart of the *Sunken Rock*; but if you see the Key of the Town,

Town and bring it in the middle of the entry of the Haven, you will not come near enough to receive any hurt.

From the *Berry Head* to the *START POINT*, the course is S. S. W. or S. W. by S. 4 leagues. Between *Dartmouth* and the *Start Point* is *START BAY*, whose shore is very bold. Under the Point, at the east side, lies a very good Road for westerly winds, betwixt the Point and a church which stands on the high land in 10 and 11 fathoms; so that the Point bears S. W. of you. About 2 miles E. N. E. from the said Point, lies the *SCARY*, a dangerous shoal, which is very foul and rocky; its extent being about $\frac{3}{4}$ of a mile North and South, and not above a cable's length in breadth. A Lieutenant of a man of war, who struck on this shoal in a cutter, in the year 1772, found no more than 9 feet in some places, though it is reported to be 3 fathoms under water.

The *PRAUL POINT*, which is the southernmost land, lies about 4 miles W. S. W. from the *Start*. Off the Points the tide flows full and change E. S. E. $\frac{1}{2}$ E. or 8 hours 35 min.

From the *Start* to the *BOLT HEAD*, which is very high land, the course is W. 2 leagues and $\frac{1}{2}$. The *Praul* lies above half way between, and in the same direction, between the *Praul* and the *Bolt*, is the entrance of

SALCOMB, a Bar Harbour, on which there are 9 feet at low water and 4 fathoms or more at high water; it is dangerous to enter, being very narrow, (not above $\frac{3}{4}$ of a cable's length over) and the land on each side exceeding high. When over the *Bar*, and in the harbour which is called the *Bag*, you will have 3 and 4 fathoms at low water, good anchorage. When you come from the westward it shews itself open; the west side is rugged, and the east side goes sloping down. Close to the West point lies a ledge of rocks, which you may see break; those you must give a good birth to, leaving them on your larboard side.

The *BOLT TAIL* lies about 4 miles W. N. W. from the *Bolt Head*. All the way from the *Start* to the *Bolt Tail** is dangerous, being very rocky and steep to.

From the *Start* to the *Lizard* in the Offing, it flows half tide; that is, S. E. by E.

* The *Ramillies*, [a 90 gun ship, Captain *Taylor*, the same on board which Admiral *Byng* had his flag in the engagement off *Minorca* in 1756, and was shot afterwards in 1757] was lost here in the gale which happened on the 13th of *February*, 1760, at night; and all her hands, above 700, drowned, except one Midshipman and 25 sailors. She was returning from the *Bay of Biscay*, and, when the gale came on, made the best of her way for *Plymouth*; the weather being hazy, she overshot the entrance of the Sound, and got herself embayed in *Bigbury Bay*; she came to an anchor, but her cables were not sufficient to hold her; she drove upon the rocks and was split to pieces.

SECT. III. To sail into Plymouth Sound — Hamoaze — Catwater, &c.

From the *Start*, or rather *Praul Point*, to the *Ram Head*, the course is W. N. W. $\frac{1}{2}$ N 7 leagues, E. by S. about 2 leagues from the *Ram Head*, lies *Stoke Point*; these two points make **PLYMOUTH SOUND**, (though it is more generally comprized between the *Ram Head* and the *Mew Stone*, about 4 miles E. by S. from the former) as *Stoke Point* and the *Bolt Tail* make **BIGBURY BAY**.

The land over *Plymouth* makes double and treble; it may be seen in 50 fathoms. On the high land, over the *Ram Head* stand a *Church* and *Steeple*, which are a good mark to know the *Ram Head*.

Coming from the eastward and bound into *Plymouth Sound*, stand for the **RAM HEAD**, (properly *Rame Head*) until you bring *Plymouth Old Church*, 2 sails breadth open to the westward of the *Citadel*, or the said *Church* on with a *White Patch* in the middle of the *East Hooe*. Keep this mark on through the middle channel, between the *Tinker* and *Showel*, on the east side, and the *Knap* and *Panther* on the west side; then haul more to the eastward till you just open the *Lommy* with *Fisher's Nose*, and bring *Withy Hedge* up and down. Then you may anchor in 6 fathoms water, and the best ground in the Sound. Or keep *Mount Edgcumbe House* just open to the southward of *Drake's Island** (called also *Nicholas's*) and *Withy Hedge* right up and down; or *Drake's Island* N. W. of you, and anchor in 6 or 7 fathoms.

To sail into **HAMOAZE**, keep *Kingstone* open with *Reading Point*, until the *Large House of Stoke* touches the east side of *Mill Bar*: Steer in till the *Obelisk* comes on with *Blockhouse Point*; keep in that direction till the easternmost *Summer House* on *Mount Edgcumbe's* side comes open of the Point within which it stands; steer for it till the east side of *Mount Wise* comes open with *Blockhouse Point*: Then proceed in mid-channel for *Stonehouse Pool*, till *Drake's Island* is shut in within *Blockhouse Point*, and do not open it till *South Down* comes open of *Obelisk Point*; then steer up into the harbour; the side of *Drake's Island* just touching *Passage Point*, will lead you to the southward of the Harbour Shoal, on the outer part of which is a rock, called the *German Rock* or *Passage*, with only 16 feet; but on any other part there are 3 $\frac{1}{2}$ fathoms.

If you would go into **CATWATER**, run in betwixt the island and the point on the east side in with the land of *Plymouth*, until you see *Catwater* open on your starboard hand; go then to the eastward, betwixt the point, of *Plymouth* and the point on your starboard side, leaving most

* This island joins with the west side by a range of rocks under water, through which there is a narrow dangerous channel, only 2 fathoms deep, so that you must sail along to the eastward of it, whether you are bound into *Catwater*, or *Hamoaze*, which is the West Harbour.

part of the channel on that side, until you come within the point, and there anchor right against the high steep north land: there are 4 or 5 fathoms at low water, spring tides. You must give a good birth to the southern point in the entrance, a ledge of rocks under water, lying off the said point, about 2 cables length from the shore. Upon the point of the ledge lies a Buoy, which you must leave on your starboard hand; and when you have *Cat-water* open, you may run into the eastward, leaving in the entry of the harbour two-thirds of the channel, on your starboard side, because the south shore is somewhat flat, there lying a sandy bank which reaches to the second point of the said shore.

To sail into *PLYMOUTH SOUND* in the night time, bring the *Eddy-stone* due South of you, and steer N. N. E. or N. E. by N. according to wind and tide, until you shoal your water to 8 or 7 fathoms; then anchor. When day-light comes you may chuse your birth, and act as you please. In coming in from sea you will descry *Rame Church* within the *Ram Head*: this, and a high square tower upon the highest part of the land, are certain marks by which the *Ram Head* is known.

“ If you are going in *Plymouth Sound*, from the eastward, (says Captain *Hayter*) steer from the *Start*, or *Bolt Head* N. W. by W. till you get near the *Mewstone*, then run to the westward till you bring *Plymouth Old Church Steeple* open to the westward of the *Citadel*; then you may haul into the *Sound* till you bring *Drake's Island* about N. W. and a wall on the east shore right on end way; This wall is called *Withy Hedge*, and parts one field from another. Should you be coming from the westward, with the wind S. S. W. or thereabouts, and a storm, then anchor in *Causand Bay*, (a fair sandy bay within the *Ram Head*) in about 5 fathoms, and you will be much safer than in the *Sound*.

SECT. IV. *Dangers in Plymouth Sound.*

The dangers in *Plymouth Sound* are the *Tinker*, the *Shovel*, the *Panther Rock*, and the *Knap* or *Knapping*.

About one mile West from the *SHAOSTONE*, (which is a large black rock, N. W. by N. from the *Mewstone*) lies the *TINKER*,* on which there is a floating boom or perch; on this you have no more than 13 feet water, though in several printed directions for the *Sound*, it is said 17. There is a narrow channel between the *Tinker*, and the *Shagstone*; the mark is *Plymouth Old Church* on the west corner of the *Citadel*, which will lead you in clear, until you bring *Drake's Island* N. W. and the *Withy Hedge* in and down; then anchor as before.

* Formerly called *Albermale Rock*, and discovered only in the year 1705, when one of the capital ships struck upon it.

From the *Tinker N.* by *W.* lies the *SHOVEL*, on which there is a white *Can Buoy*; you have 17 feet on this Rock.

W. by *N.* $\frac{1}{2}$ *N.* from the Buoy, about one third of a mile, is a shoal on which his Majesty's ship *PANTHER* struck in 1774. It lies about 200 fathoms *N. N. E.* from the *Knap*; having no more than 21 feet on it, at low water, spring tides. The *Knap* is pretty near 100 fathoms in length, with about the same depth of water as the *Panther*; each of these has a black Buoy upon it; and there are only 4 fathoms water betwixt them. Between these two rocks, and the *Buoy of the Shovel*, is the proper channel into the Sound. The marks for the *Panther Rock and Knap* are, the Spire of the *New Chapel* in the Dock, just open with the trees on the eastmost point of *Mount Edgcombe*; and a large house, to the northward of *Plymouth*, on with the *White Patch* on *Plymouth Hoe*; the *Old Church* will then be almost twice its breadth to the westward of the said Patch, and the southernmost point of *Yalm Land* on with the highest point of the range of rocks within the *Shagstone*; the white Buoy on the *Shovel* will bear *E. by S.* $\frac{1}{2}$ *S.* from you by compass. The mark for the *Buoy of the Knap* is the *Old Sugar House* on with *Teats Hill*.

It flows, full and change, in *Plymouth* and *Hamoaze*, 6 hours 5 min. It is half flood in the Sound before it sets to the eastward in the Offing.

SECT. V. *The Eddystone—the Hand Deep.*

About 2 leagues and $\frac{1}{2}$ *S.* by *W.* $\frac{1}{2}$ *W.* from the *Ram Head* lies the *EDDYSTONE ROCK*, upon the north west part of which stands the *LIGHT HOUSE* *. The *S. S. E.* side of this rock is foul above half a mile, at low water, and there are several rocks which shew themselves above water. You have 20 fathoms water close by *Ram Head*; between the *Eddystone*, 35 and 36 fathoms, and in the stream of the *Eddystone* 40 fathoms; any ship may sail close by to the westward of the *Light House*, there being 12 or 13 fathoms water. A quarter of a mile *N. E.* by *E.* from the *Light House*, lies a hidden rock which never appears but at low spring ebbs. It is high water here at the

* The first *Light House* was erected in 1696, by Mr. *Henry Winstanley* of *Littlebury* in *Essex*; the dreadful storm, which happened in November 1703, carried away the whole fabric and the architect perished with it. An act of parliament was passed in the 4th year of *Queen Anne*, for constructing a new one, which was built by Mr. *Joh. Rudyard* in 1706. This last having been burnt down by accident in 1755, the present *Light House* has been erected under the direction of the ingenious Mr. *Smeaton*; and notwithstanding the rock was greatly damaged, and there were insuperable difficulties, the elegance of its construction, the nature and composition of the cement used with the stone, the compass of its lanthorn, and the noble light exhibited therein, are equalled by very few buildings of the same kind.

same time as in *Plymouth Sound*, but it runs tide and half tide, that is, it runs three hours after high water; the tide rises and falls, upon spring tides, 19 feet, and at high water all the rocks are covered.— From the *Praul* to the *Eddystone*, the course is W. 7 leagues; and from the *Eddystone* (without) to the *Lizard*, the course is W. S. W. about 15 leagues.

In coming from the westward, and bound into *Plymouth Sound*, there is a rocky shoal, long known to the fishermen, and which was explored in June 1774, by Mr. *Murdock Mackenzie*. On this Rock, which has 16 fathoms all round, there are no more than 22 feet at low water, spring tides: It is called the *HAND DEEPS*, and bears N. 39 deg. W. or N. W. $\frac{1}{2}$ N. nearly from the *Eddystone* 3 miles and 3 quarters: From the *Ram Head* it bears S. 56 deg. W. or S. W. by W. nearly distant 10 miles and $\frac{1}{4}$. The *Hand Deeps* is of a conical form, and difficult to sound upon. The marks are, to bring the lowest or South-easternmost part of *More-end Hill*, just on with the top of the *Mewstone*; and *Mount Batton* a sail's breadth open of *Penlee Point*; These will run you right upon it*.

* This is one of the Dangers whose existence has been repeatedly denied. The birds hovering over this rock, first indicated its position to the fishermen, who strove in vain to persuade navigators, till soundings and bearings were ascertained.

C H A P. VIII.

*From Plymouth to the Lizard.*S E C T. I. Looe—the Udder—Fowey—the Cannys
—Polkerris and Mevagizey Bays—the Dodman, &c.

THE course from the *Praul* to the *Lizard* is W. by S. $\frac{1}{2}$ S. about 21 leagues, From the *Ram Head* to the *Lizard* the course is W. S. W. $\frac{1}{2}$ S. 16 leagues.

About 4 leagues W. by N. of the *Ram Head* is the town of LOOE, divided into *East* and *West Looe*; it is a small dry harbour frequented only by a few coasters. Athwart of *West Looe*, near *Tall Point*, lies a small island called *Looe Island*, to the eastward of which you may anchor in 5 and 6 fathoms water. About 3 and $\frac{1}{2}$ miles W. by S. from the N. W. part of *Looe Island*, and 2 $\frac{1}{2}$ miles from the middle of *Lantach Bay*, lies THE UDDER, a sunken rock, about 80 feet in length, and 20 in breadth, with only 9 feet on it, at low water, spring tides; there are 8 fathoms within it, and 9 without. The marks for this rock are, a farm house by the shore on with a stone wall which runs up nearly N. N. E. $\frac{1}{2}$ E. per compass; and the high land above *Polparow* on with the N. W. part of *Looe Island*. To go clear of it you bring the said high land open of the N. W. part of the Island.

FOWEY, or FOY, lies to the westward of *Looe*, about 3 leagues, and N. E. from the *Dodman* 3 leagues $\frac{1}{4}$. It may be very easily known, lying in between two high lands. The entrance is very narrow, having no more than a furlong from side to side. The castle is on the west side,* and the ruins of an old church are seen

* There is now no Church on the Western shore as mentioned by *Collins*, the *Mariners New Calendar*, and others.

on the east side. This place lying about N. E. and S. W. in and out, it makes it a better outlet to the westward than *Plymouth* and *Falmouth*, and you will carry in with you in the shoalest part 3 fathoms at low water; anchor opposite the town, where you have 3 fathoms, at low water, spring tide; or over towards *Polruan* in 12 and 15 feet water. Here you may lie ashore to wash, tallow, or stop leakes. The spring tides rise and fall 16 and 17 feet, and it is high water, full and change, at 5 hours 15 min. There is a good anchoring without the harbour, from 5 to 10 fathoms water; but beyond that depth, foul ground. The tower of *Forwey Church* over *St. Saviour's Point*, and the *Three Points* on the shore to the eastward, open, are good anchoring marks for this Road, when you will have 7 or 8 fathoms water, fine sandy ground.

The danger in going into *Forwey*, is a Ledge of rocks called the *CANNYS*, or *CONIES*, which are seen at half tide. They lie S. $\frac{1}{2}$ E. from *Predmouth Point*, about $\frac{1}{4}$ of a mile, the channel between having only 10 feet water, and foul ground all over. If you keep the *Dodman* open without the *Windhead Rock*, it will carry you clear of the *Cannys*, when you run into *Forwey* from the westward.

From the *Ram Head* to the *Dodman*, the course is W. by S. 9 leagues.

The *DODMAN*, called also *DEADMAN'S POINT*, is a high bluff head; or a double land with a round hill, which goes sloping down towards the West; about 3 miles N. E. from it, lies the *Windhead Rock*, or *Gull Rock*, a large black stone above water, and a mile from the nearest shore; small vessels that are well acquainted, sail within this rock.

Between the *Dodman* and *Forwey*, lie two large Bays called *Polkerris*, and *Mevagizey Bays*.

POLKERRIS, or *PARR BAY* *, is just round *Predmouth Point* to the N. W. of it. It is a large deep sandy bay, with gradual soundings from 12 to 10, 8 and 6 fathoms, pretty near the shore; the best anchorage is on the western side, in a part called *Ropehorn Road*, which is well sheltered from westerly and southerly winds. Anchor off *Ropehorn Pier* in 11 or 12 fathoms, bringing the *Black Head* South, or S. $\frac{1}{2}$ E. It is good holding ground, clay and sand mixed.

To the westward and southward of the above, is *MEVAGIZEY BAY*, in which Rear Admiral *Spry* anchored with his whole fleet in 1774. This is also well sheltered from westerly and S. W. winds; and for ships, bound to the westward with contrary winds, a much preferable Road, was it well known, than *Plymouth Sound*. You may anchor with large vessels in 13 or 14 fathoms water, bringing the southernmost point of the Bay S. by W. or S. $\frac{1}{2}$ W. and *Black Head* North, or N. $\frac{1}{2}$ E. These two Bays at present are but little frequented, except by fishermen and smugglers.

* This is the Bay, called by *Collins*, *St. Blazey Bay*, of which he gives no description.

From

From the *Dodman* to *St. Anthony's Head* (called also *St. Ann's Point*) at the entrance of *Falmouth*, the coast is bold and rocky; the course is S. W. $\frac{1}{2}$ W. near 4 leagues. From the *Ram Head* to *St. Anthony's Head*, the course is W. S. W. $\frac{1}{4}$ W. about 13 leagues.

SECT. II. *Sailing into Falmouth—Carreg Road, &c.*

FALMOUTH has one of the finest harbours in this island, partly from the situation of the coast, and partly from the influx of several rivers. It is so capacious that an hundred ships may ride there commodiously, without seeing each other's top. This port stands on the top of the Round Hill, just on the west side of the harbour. Nearly in the middle of the entrance, and almost opposite to the *Castle*, lies the *Black Rock*, called also *Parson's Rock*; it shews itself athalf tide, and has a Perch or Beacon on it, to shew where it lies when under water. You may go either side of it, but the eastern is the best, as you will have 3 fathoms water within half a ship's length of the Rock; the western side is narrower, with less water. On the inner side of the east Point of the entrance, lie also some rocks, therefore you must give that point a good birth.

You must be very brisk in veering away cable, while you let go your anchor, or you will drag it off the bank.

To sail into CARREG ROAD, keep in the fair way between the *Black Rock*, and *St. Marw's*, having your lead going. You may borrow off *St. Marw's* to 5 or 6 fathoms, if you chuse; but steer mid-channel, and you will have 16 and 18 fathoms. Keep in these soundings until you bring the *Manacles* to open and shut with *Falmouth Point*; or *Pendennis Castle*, and *St. Marw's Castle* East, E. by S. or E. S. E. then lay your easternmost anchor in 16, 17, or 18 fathoms, and your western anchor in 5 or 6 (for you must observe to moor athwart the tide) with these depths you are in the best of the Road.

To sail in to the westward of the *Black Rock*, you must take the soundings of the west land on which the *Castle* stands, in 5 or 6 fathoms; and being somewhat within the Rock, run towards the said land, where you have 6 and 7 fathoms $\frac{1}{2}$ flood, then proceed to the anchoring ground.

Above *St. Marw's Castle* runs off from the shore a Bank or Flat, called *St. Marw's Land*, which lies almost half channel over from the eastern shore. This Bank must be guarded against, as it is quite steep to, having 17 fathoms close to it: But the *Manacles* open and shutting with *Falmouth Point*, as just observed, will carry you in the best of the channel.

Large ships generally anchor with *St. Marw's Castle* E. N. E. and the *Manacles* on *Falmouth Point*; or a *Great House* to the northward of *Falmouth*, towards *Penryn*, just open of *Trefussis Point*, in 18 fathoms water.—

water.—If you would anchor before the town of *Falmouth*, and your ship draws about 12 feet, you must take a proper time of tide, for there is a bar which runs right athwart from *Trefussis Point*, towards the land of *Pendennis Castle*: Before the town you will have no more than 12 feet, at low water. —There is a small place, called *St. Maudit's Creek*, where small vessels ride before *St. Marw's*, in 2 or 3 fathoms at low water.—To sail up to *St. Just Pool*, which is the best place in all the harbour, but where you are not so ready for sailing as in *Carreg Road*, you must keep near the west shore, or *Trefussis Land*, and stand over into the *Pool* between *St. Marw's Land* and the *Middle*. You may run up by your lead, borrowing on either side no nearer than 6 fathoms water, more or less, according to the draught of your vessel.

From *St. Just Pool* you may sail to *Turner Ware Point*, keeping close by the east shore, where you will have 2 fathoms at low water, and 5 at high water. Being come up the Point, give it a birth, to avoid the Shoal which lies off from it. Above *Turner-Ware Point*, you may anchor any where, between it and *Mopas*, with great safety; but such vessels as go up to *Truroe*, take the tide, and there lie dry at low water.

It flows here, full and change, 5 hours 45 min. and up and down, spring tides, 18 and 20 feet; neap tides, 12 and 14.

SECT. III. Helford—the Manacles—the Lizard.

About 4 miles S. W. from the entrance of *Falmouth*, lies HELFORD, an open sound, which runs West above 3 miles. As you sail in and out, keep in the fair way, but more to the south shore than the north, the north being foul ground some distance off; observe also that at the south side lies a steep point, and on the north side a low sharp point. Being in, you may bring *Mawnan Church* N. N. W. or N. W. and anchor in 3 fathoms $\frac{1}{2}$, and 2 fathoms, according to the burthen of your ship. A little to the eastward of *Helford town*, lies a bar, the best of which is by the south shore; there are 9 feet, at low water, and the same depth before the town, where small vessels lie. — The going in at this place may be very well known by *Mawnan Church*, which stands on a hill on the north side.

Southward of *Helford Sound* above one league, are the MANACLES, a ledge of rocks, which lie S. by W. 2 leagues from *Falmouth*; N. E. 3 leagues from the *Lizard*, and about 2 miles East from the land, the space between being very rocky and dangerous; some of them appear pretty high above water, so that they may be seen at any time of tide, out of *Carreg Road*: They are the greatest danger in sailing towards *Falmouth*. To carry you clear of them, if coming from the westward, keep the body of *St. Kevern's Church* above the land, until
you

you bring *Pendennis Castle* N. N. W. of you; then you may haul in for *Falmouth*, keeping the said church in sight until you are within them. When you sail out of *Falmouth*, although bound to the westward, you may carry yourselves clear of the *Manacles*, S. by E. but, with a tide of ebb, you must steer S. S. E. or S. E. by S. to avoid them; or observing to keep *St. Kevern's Church* open above the land, will answer the same purpose.

The *LIZARD* is a bold land, with several steep rocks called the *Stags*, and lying South from the shore about a quarter of a mile: they are steep to, some above water, some appearing only at half tide, and you will have 12 fathoms water close to them. To go clear of them keep *Black Head Point* open of the *Lizard Point*, till you bring the Two Light Houses in one, or till *Godolphin Hill* is open above the land to the West of the *Lizard*.

This Headland (whose name ought to be spelt *LIZHERD*) is the most famous among *British* navigators; from thence they take their departure, and it is also the properest place for a Landfall, when they are homeward bound. The *Lizard*, according to *Dr. Maskelyne's* Tables, lies in 49 deg. 57 min. 30. sec. Lat. N. and in 5 deg. 15. min. Longitude, West of *Greenwich*; or 5 deg. 9 min. 23 sec. West of *London*. 12 deg. 36 min. 17 sec. E. from the *Isle of Ferro*, the First Meridian of the *French* and westernmost of the *Canary Islands*; and 11 deg. 20 min. E. from the *Peak of Teneriffe*, the First Meridian of the *Spaniards* and the *Dutch*.

The *Lizard* may be seen 7 or 8 leagues off, in 40 or 42 fathoms water, and is known in the night by its *Two Light Houses*. From the *Lizard* to the *Eddystone* (without) the course is E. N. E. about 15 leagues; to the *Ram Head* E. N. E. $\frac{1}{2}$ E. 16 leagues, and to the *Praul* E. by N. $\frac{1}{2}$ N. 21 leagues. Off the *Lizard* the tide flows, full and change, S. W. by W. or 5 hours 15 min. and in the Bay between the *Lizard* and *Eddystone*, E. $\frac{1}{2}$ S. or 7 hours 45 min.

C H A P. IX.

From the Lizard to the Land's End, and Cape Cornwall, &c.

S E C T. I. *Sailing into Mount's Bay — Port Leven Road — Guavas Lake (corruptly Govers Lake) — Geer Rock, &c.*

FROM the *Lizard* to the *Land's End*, the course is W. by N. northerly, or W. N. W. about 6 leagues. Between both lies a large deep bay, called MOUNT'S BAY; to sail within which, coming from the *Land's End*, or the *Lizard*, the ground is clear all over, fair coarse sand (till you come within a mile of the shore) between 20 and 23 fathoms. At the bottom of the Bay is a high island with an old castle, called *St. Michael's Mount*; round this island it is full of rocks and foul ground, as well as along the coast, for about 5 miles to the eastward.

On the east side of *Mount's Bay*, and just round the *Lizard*, about 7 miles to the N. W. is a Road called PORT LEVEN, which is fit to stop in, with strong Easterly winds, when bound up the Channel. To anchor there, you must bring *Helfstone Church* N. E. $\frac{1}{2}$ E. you will then have 10 and 11 fathoms water, hard sand.

On the West side of *Mount's Bay*, about 3 leagues westward of *Port Leven Road*, and 5 leagues N. W. by W. from the *Lizard*, is GUAVAS LAKE, where you have tolerable riding with westerly and southerly winds. The dangers in going in are the *Sunken Rocks*, called *Low Lea*, and *Carn Bafe*; they bear from *St. Paul's Church* S. E. by E. or E. S. E. lying N. N. W. and S. S. W. $\frac{1}{4}$ of a mile in length,

length, and about $\frac{3}{4}$ of a mile from the Point of *Pealea*, with no more than 5 or 6 feet on them at low water. When you are at anchor in *Guarvas Lake*, you bring them S. by E. or S. S. E. of you, and *St. Clement's Island* just shutting in with *Pealea Point*; but very large ships may anchor in the Road without these Rocks, right between *St. Michael's Mount* and *St. Clement's Island*, in 12 and 13 fathoms water.

To sail into *Guarvas Lake*, coming from the Eastward, haul in for the western shore till you come near *Moufehole*, keeping *St. Paul's Church Tower* in sight above the land, till you bring it to the northward of *Pealea Point*: then steer right for *Penzance*, taking care to keep the windows of the tower of *St. Paul's Church* in sight, till you bring the Tower to the northward of the *Long Hedge*: this Hedge is about half way between *Newlyn*, (corruptly *Newland*) and *Pealea Point*, and comes straight down from the Church to the Cliff. Then haul in for *Newlyn Pier Head*; or keep a *White House* that stands in the corner of a field just above *Newlyn*, on the middle of *Newlyn Pier*. Steer so till you run *St. Paul's Church Tower* out of sight, and open *St. Hilary's Spire* (a tall white spire on the highland to the eastward of *Marazion*) within *St. Michael's Mount*; and *Moufehole*, or *St. Clement's Island*, just shooting with *Pealea Point*, then anchor; you will have 6 fathoms water, and the best ground in the Lake. Observe to lay your small bower to the N. E. and the best bower to the S. W. or W. S. W. that you may lay with an open hawse, with S. E. and southerly winds, which send a great sea in here. There is also a great under tow that makes you ride easier.

There is a Rock called the *GEER*, which lies S. by E. one third of a mile from *Penzance Pier*, and just appears at low water, spring tides; it is surrounded with several sunken rocks, over which you have not above 3 feet water. In turning in, should you shut in the *Little Godolphin Hill*, (a small round hill standing above *Port Leven Road*) with the S. E. side of *St. Michael's Mount*, you will run upon these Rocks.

To the foregoing Directions it will not be improper to add those which are very minutely given in the *Mariner's New Calendar*:

" If the wind is in the eastern hank, (says the *Calendar*) give the
 " eastern shore about a league birth, and keep *St. Paul's Church*
 " wholly in sight above the Hill, till you bring a church on the east-
 " ern shore, a sail's breadth to the northward of *St. Michael's Mount*;
 " then bear away to the *Lake Hill*, keeping your mark till you run
 " *St. Paul's Church* down under the Hill; let go your N. E. anchor,
 " and carry the other to the S. W. then you will be well moored, and
 " in good fine ground, all sand.

" You

" You may come in, keeping one half of the church above the hill; you'll go clear of the Rocks (*Low Lea* and *Carn-Baſe*) to the eaſtward, and when it ſhuts down you are to the weſtward of them; when upon them, the top of the Tower and a *Long Hedge* are in one, about 6 or 7 feet, at low water.

" If the wind be in the ſouthern or weſtern hank, keep the land on board, which is bold; you may go within a quarter of a mile of the Point. Run till you ſhut *Mouſehole* (*St. Clement's*) *Iſland* in, and *St. Paul's Church* down under the land well, to come to with your S. W. anchor: then carry the other to the N. E. You will be well moored, in fine ground, as before mentioned. Be ſure to have the Church on the eaſtern ſhore a ſail's breadth open to the northward of the Mount.

" If your ground tackling is good, your anchors will never ſtart. The wind at S. S. E. or S. E. heaves in a great ſea, and raiſes a great ground ſea when it blows hard; the harder it blows, the ſtronger outſet you have in your favour. There is no tide; you always ride head to wind. Your anchors will ſooner ſtart with the wind to the N. or N. N. W. becauſe the ground goes out with a little deſcent."

In *Penzance Pier*, there are at ſpring tides 13 feet water, and at neap tides 9 feet. At the *Mount's Pier* there are rather more.

An E. N. E. $\frac{1}{2}$ E. moon makes high water in *Mount's Bay*; or, it flows, full and change, 4 hours, and 55 minutes.

SECT. II. *From Mount's Bay to the Land's End—Runnel Stone and the Four Sunken Rocks—Wolf Rock—Long Ships—White Sand Bay—Brefons—Cape Cornwall, &c.*

Between *Mount's Bay* and the *Land's End* the ſhore is bold to, and no danger from any thing, except the *Runnel*. Upon the *LAND'S END* lie Two Round Hummocks, which appear when you firſt make that land, the higheſt of which has a ſpire ſteeple; coming ſomewhat nearer, you deſcry upon the outermoſt end, on the low land, another ſpire; by theſe the *Land's End* is well known. The ground thereabouts is whitish ſand with red, mingled with ſhells, and the land may be ſeen in 54 fathoms water, 8 or 9 leagues off.

The *RUNNEL*, or *RUNDLE STONE*, lies due South, about 2 miles and a $\frac{1}{2}$ from *Toll Peden Penwith*, or the S. E. point of the *Land's End*, and about two-thirds of the way between *Mount's Bay* and the N. W. point, or proper *Land's End*. There is another, called *Law Mean*, which lies about the 6th part of a mile N. E. by N. from it. The *Runnel Stone* ſhews itſelf above water at half tide, and the paſſage between it and the ſhore, called the *Inſide Channel*, has 12 fathoms water. To go clear of this Rock, *St. Levan's Church* juſt oppoſite

must be your mark; keeping the windows of this Church open above the land, will carry you clear without it, shutting the said Church with the land, you may sail safely between the Rock and the shore.

“ Between the *Rundle Stone* and *Land's End* lie FOUR SUNKEN Rocks, three of which are in the fair way, and the other nearly in the same direction with the *Stone*, which renders that frequent passage extremely dangerous. At low water, on one of the above-mentioned rocks is 6 feet; on a second, but 4; the third, on particular spring tides, the oar-weed has been seen above; the fourth is nearly as the third. On the 26th of May, 1782, Captain *Puddicombe* of the *Newton Busbel*, from *Liverpool* to *Plymouth*, struck on one of these rocks; but the weather proving fair, and wind favourable, by the immediate assistance of a pilot, with a number of hands to work the pumps, the vessel was kept above water, and brought into a port in *Mount's Bay*.”

The *WOLF*, or *GULF ROCK*, lies W. $\frac{1}{2}$ S. from the *Land's End* North West point about 3 leagues, S. W. $\frac{3}{4}$ S. and from the *Lizard* 8 leagues. It is a small sharp oblong Rock, no bigger than an ordinary long-boat, generally above water, and appearing at first sight, like a *Grampus* on the surface of the sea*. It is steep to on every side, and there are 40 fathoms all round it, pretty clean ground. The sea makes a terrible roar upon it, which may be heard a great distance off, in moderate weather. The outward part of the *Long Ships* on with *Bresons Island*, will carry you right upon it.

The *Long Ships* lie about one mile West from the *Land's End* North West point, and about 3 N. W. by W. from the S. E. point. They extend about $\frac{1}{2}$ a mile north and south, appearing very high above water, and may be seen 4 or 5 leagues off. There is between them and the shore, a passage for the largest ships, within which you may run either to the northward or southward, and come to an anchor in 8, 9, and 14 fathoms. The north side is the best; but this passage

* Captain *Greenwile Collins*, Mr. *Morris*, and some Dutch Navigators, say, that the *Wolf* is always above water; whereas *Seller*, Mr. *Adams*, Mr. *Arnold*, with several others, pretend that it is uncovered only at half tide, or near half ebb. You meet with the same contradiction in regard to the distance and bearings of this Rock, from the *Land's End* and the *Lizard*. Mr. *John Adams*, in his book, entitled, *The Young Sea Officer's Assistant*, published in 1773, places the *Wolf* about W. 10 leagues, from the *Lizard*, and S. S. W. from the *Land's End*, 4 leagues; but what is remarkable, between the *Wolf* and the *Land's End*, that gentleman describes another Rock, which he calls the *VAULE*. “ The *Vaule*,” says he, [p. 27] “ is a Rock that lies S. S. W. from the *Land's End*, distance three leagues, and makes, like the bottom of a ship, at half tide. There are forty-two fathoms water close to it on either side.” Mr. *Adams* is unpardonable for not having quoted his authority for this New Rock, to which he assigns the same bearings from the *Land's End*, with the same height above the sea, as to the *Wolf*; and near which there is very near the same depth of water. [See Chap. xii. Sect. vi.]

is so narrow and dangerous, that it is frequented only by smugglers and small vessels.

From these Rocks to the BRESONS ROCKS, (so called from the French word *Brisans*, *Breakers*,) the distance is 3 miles N. by E. *Bresons Island*, a high small round rock, and the largest of all is about $\frac{3}{4}$ of a mile from *Cape Cornwall*, which lies 3 miles and a $\frac{1}{2}$ N. of the *Land's End*. Coasters well acquainted may sail within this island.

Between *Bresons* and the *Longships* is WHITE SAND BAY, where you have good anchorage in 19, 23, and 25 fathoms, clean ground. It is well sheltered from the winds between the N. E. and S. E. but it is very dangerous to be caught there with the westerly winds, &c. therefore it is not much frequented.

SECT. III. *The Tides at the Land's End and the adjacent Parts.*

The first place of the beginning of the flood in the *West of England*, is at the *Long Ships*; there the stream divides, one sitting to the northward, and the other to the southward. At full and change, the flood begins E. N. E. or 5 hours 25 min. and sets 9 hours to the northward; and from the *Long Ships* to the *Runnel Stone* and *Wolf*, the tide sets S. E. 3 hours, that is, it is high water by the shore, before the flood sets to the southward.

An E. N. E. moon makes high water all along this part of the coast, from *Cape Cornwall* to *Mount's Bay*.

Off the *Land's End* it flows S. W. by W. or 5 hours 10 min; but in *Mount's Bay*, as we have already observed, it flows, full and change, E. N. E. or 6 hours.

It is high water at the *Wolf*, at full and change, E. N. E. 4 hours 30 min. and the tide sets to the eastward till half ebb ashore. And when it is half ebb ashore at *Mount's Bay*, then the north stream begins in the N. W. and ends in the N. E. 9 hours, till it is high water ashore.

“ The tide of flood (says Mr. *Borlase*, in his *Natural History of Cornwall*, p. 52) at the *Land's End*, rises on the top, at a common spring, 18 feet; and from that to 24, according to the wind and weather. Infomuch, that in stormy weather, from the S. W. it has risen to the height of 30 feet; but at the common neap tides, only 13 feet usually; and at the very dead neap, it has not risen above 10 feet. During the flood, the tide at the *Land's End* sets inward from the South, near 9 hours; its run is 8 hours in most places betwixt *Scilly* and the *Land's End*; but the ebb continues only betwixt 3 and 4 hours. This is a very dangerous singularity, if not known and properly regarded.”

C H A P. X.

The SCILLY ISLANDS.*S E C T. I. *From the Land's End to Scilly—The Seven Stones — Thompson's Rock.*

FROM the *Lizard* to the middle of *Scilly Islands*, the course is westerly about 16 leagues, and no danger, except the *Wolf Rock*, already described.

From the *Land's End* to the middle of *Scilly* the course is W. by S. $\frac{1}{2}$ S. 9 leagues. The channel is broad and very good, but not free from all danger; for besides those mentioned in the preceding section, there are the *Seven Stones*, and *Thompson's Rock*.

Between the *Land's End* and *Scilly* the best time of tide to make a short passage, is at half ebb, for then the tide sets W. S. W. right on the islands: But if you go to the northward of the islands, you will have the first of the flood, running strong to the N.; if you keep to the southward, you carry the W. S. W. stream for 6 hours, till it is half flood by the shore, at which time this stream breaks and runs in towards the islands, but not very strong. You are to understand that the extent of this tide is about a league or two off the islands, to the southward; and as far to the westward as the outermost Rocks.

The SEVEN STONES are a dangerous Reef of Rocks which appear above water, some at half tide, and some at low water; they lie in length N. W. and S. E. about 2 miles, and $\frac{1}{2}$ a mile broad; the sea always breaks upon them, and they may be seen at a considerable distance, except in very bad weather that they cannot be distinguished.

* Called formerly the *Sorling*, or *Sorlinge*, which name is still used by the French and the Dutch.

The *Seven Stones* bear from *Cape Cornwall* W. $\frac{1}{2}$ S. 6 or 7 leagues from *St. Martin's Head* in *Scilly*, N. E. 3 leagues; and from the *Land's End* due W. by N. 7 or 8 leagues. Here the tide or stream sets 9 hours to the Northward, and but 3 to the Southward.

THOMPSON'S ROCK is a funken Rock, which lies two-thirds of the way between the *Land's End* and *Scilly*. "Captain Thompson, in the ship *Betty*, of "12 feet draught going from *London* to *Ireland*, struck "upon this Rock the 17th of *November*, 1775, about two in the after-noon.

"As nigh as I possibly can judge, (says the Captain) it is about 6 leagues from the Rock, or Island off the *Cowle Head*; and from our striking, we steered E. by S. as near as possible. About five minutes before we struck, we saw the Light House of *St. Agnes*, which bore betwixt W. and W. by S. or near W. by S. distant. I supposed, about 4 leagues, or thereabouts; but not certain. But at seeing the Light House, it was a little open to the Eastward of *St. Mary's Island**,

SECT. II. Description of the Scilly Islands—Their Advantages.

THE SCILLY, or SILLEY ISLANDS, lie West southerly from the *Land's End*, and W. by S. $\frac{1}{2}$ S. from *Cape Cornwall*. They consist of a great many small Islands, and Rocks above water, and are surrounded with an innumerable quantity of Rocks and Ledges, some of which shew themselves at half tide, some at low water, and by far the greatest part never appear. Many have not above 6, 5, and 4 feet on them, at low water, spring tides. The channels or passages into the harbours, among these Islands are called *Sounds*; they are very dangerous but well known by the fishermen of the Island, who pilot the vessels into these harbours.

There are six of these Islands inhabited; the largest of which is *St. Mary's*, about 2 miles $\frac{1}{2}$ in length, and $1\frac{1}{2}$ in breadth. *TRESCAW*, or *TRESCO*, lies directly North from *St. Mary's* 2 miles $\frac{1}{2}$, and is about half its size. A mile and more to the East of *Tresco*, and about 2 miles from the northernmost part of *St. Mary's*, lies the Isle of *St. Martin*, not much inferior to that of *Tresco*.

St. Agnes, which is also called the *LIGHT-HOUSE ISLAND*, lies near one mile $\frac{1}{2}$ S. W. of *St. Mary's*. It is the most southerly island of the *Scilly*, except a parcel of over-grown Rocks lying to the S. W. of it, which cannot properly be called Islands. To the westward of

* The first description of this Rock, was given in *Sayer's* first edition of this Pilot. Several seamen, of long experience in the Channel and adjacent parts, immediately declared it was an imaginary danger, upon this excellent ground, "that they had never heard of such a Rock before."

these is the GILLSTONE, where Sir *Cloudefly Shovel*, coming from the Mediterranean, was lost in the *Association*, the 22d of October 1707, O. S. at night. His body was thrown up on the east side of *St. Mary's* and buried; but afterwards taken up by the Purser of the *Arundel*, to be carried to England.*

The LIGHT-HOUSE is the principal ornament and great support of the Island; it stands on the most elevated ground, built with stone from the foundation to the lanthorn, which is 51 feet high, the gallery 4; the sash-lights $11\frac{1}{2}$ high, 3 feet 2 inches wide, and 16 in number. The floor of the lanthorn is of brick, upon which stands a substantial iron grate, squared, barred on every side, with one great chimney in the canopy roof, and several lesser ones to let out the smoke; and a large pair of Smith's bellows are so fixed, as to be easily used whenever there is occasion. Upon the whole, it is a noble and commodious structure, and being plastered white, is an useful day-mark to all ships coming from the southward. According to Dr. *Maskeleyne's* Tables, the latitude of this Light-House is 49 deg. 56 min. N. its longitude W. of *London*, is 6 deg. 40 min. 23 seconds.

BREHAR, or as pronounced, BRYER ISLAND, lies N. W. of *St. Mary's*, and to the west of *Trescaw*, to which, when the sea is very low, they sometimes pass over the sand. South from hence, and West from *Trescaw*, stands the little Island of *Samson*.

The great importance of the Scilly islands arises from their advantageous situation, as looking equally into *St. George's Channel*, which divides *Great Britain* from *Ireland*, and the *British Channel*, which separates *England* from *France*. For this reason, most ships bound up from the southward, strive to make the *Scilly Islands*, in order to steer their course with greater certainty. It is very convenient also for vessels to take shelter amongst them, which prevent their being driven to *Milford Haven*, nay, sometimes into some port in *Ireland*, if the wind be strong at East, or if it blow hard at N. W. from being forced back into some of the *Cornish* Harbours, or even on the *French* coast. If the wind should not be very high, yet unfavourable, or unsteady, as between the Channels often happens, it is better to put into *Scilly*, than to beat about at sea, in bad weather. The intercourse between those two channels, is another motive why ships come in here, as chusing rather to wait in safety for a wind, than to run the hazard of being blown out of their course; and therefore a strong gale at East seldom fails of bringing 30 or 40 vessels, and frequently a larger

* Shipwrecks are very frequent round these Islands. Dr. *Campbell*, in his *Political Survey of Britain*, t. II, p. 487, says it would be a real point of policy to establish a diving engine, and a small Company here, as there are known many, and some of these very richly laden vessels, to have perished upon the adjacent rocks, from whence chests of silver and other things of Value might be recovered. The Doctor quotes for instance, a *West India Ship* homeward-bound, in 1736, with much silver on board; a *Dutch East India Ship*, outward bound, with treasure on board, in 1743; to say nothing of other wrecks.

number into *Scilly*; not more to their own satisfaction than to that of the inhabitants. Ships homeward bound from *America*, often touch here, from the desire of making the first land in their power, and for the sake of refreshment. Some or other of these reasons have an influence on foreign ships, as well as our own, and afford the natives an opportunity of shewing their wonderful dexterity in conducting them safely into *St. Mary's Harbour*, and, when the wind serves, through their *Sounds*. Upon firing a gun, and making a waft, a boat immediately puts off from the nearest islands, with several Pilots on board, and having with amazing activity dropped one of them into every ship till only two men are left in the boat, these return again to land, as the wind and other circumstances direct, in one of their little coves.

S E C T. III. *Directions for Sailing into the Scilly Islands, with an Account of the Tides, &c.* by Nicholas Ginver, Abraham Tover, Master Gunner of the said Islands, and others.

In coming from the Southward, you will descry *Scilly*, in clear weather, 6 and 7 leagues off, and have 60 fathoms grey sand, with broken shells: you may see it also on the South side, in 55 fathoms water, stony ground, with some red shells. But, coming from the North, at 7 leagues distance, you will have sand and oaze mixt together.

There are five principal Channels or Sounds to go into *Scilly*, viz. *St. Mary's Sound*, *Crow Sound*, *Smith's Sound*, and *Broad Sound*, which are divided into N. W. and S. W. Channels; there are besides the *Old and New Grimsby*, *St. Hellen's Cap*, *Teau Sound*, &c.

1^o *St. Mary's Sound and Road.*

ST. MARY'S SOUND, which lies in W. N. W. between *St. Mary's* and *St. Agnes Island*. is the safest Channel, and *ST. MARY'S ROAD* the best in the *Scilly Islands*. To go into this Road, coming from the eastward, you must run into the southward of *St. Mary's Island*, steering for *Penninis Point*, (the South Point) until you are within half a mile of it, or less; then steer for the *Woolpack*, keeping nearer *St. Mary's* shore to avoid the *Spanish Ledge*, which lies about mid-channel and has no more than 6 feet at low water. The *Woolpack* shews itself before low water, and lies off that Batter, over which stands a large white Rock. When a-breast of the *Woolpack*, to which you must give a birth of 2 cables length, and stand right for the *Stewal Rock*, which

is bold to, keeping the starboard shore pretty close on board to avoid *Bartholomew Ledge*; this has but 5 or 6 feet at low water, and lies S. S. W. about $\frac{1}{2}$ a mile from the *Steval*. When abreast of the *Steval*, steer away N. W. by N. At near half a mile you will meet *Broad Sound*, and open the *Little Crow Rock* with *Bantscarran Point*, then stand over N. N. E. for the Road, till you bring the *Nut Rock* N. W. or N. W. by W. of you, about 2 or 3 cable's length distance; or bring the *Castle* S. S. E. and anchor; you will have clean holding ground in 5 or 6 fathoms at low water, and ride well in with all winds, but S. W. winds, which bring in a great sea.

Some ships coming in from *St. Mary's Sound*, without a Pilot, used to observe, (after *Collins's* directions) to keep one-third of the fanes of the mill in the *Garrison*, above land, as a mark to go clear of the *Spanish* and *Bartholomew Ledges*, as well as the *Woolpack*: But the fanes of this mill have been blown down long ago, notwithstanding the two houses or mills, much resembling dove houses, are yet remaining. It is further to be observed, that there is a windmill built on *Penninis Point*, which is no mark for the Sound.

In *St. Mary's Sound* the tide sets E. S. E. $\frac{1}{2}$ southerly, and continues till two hours ebb; then it turns and sets in W. N. W. northerly.

2° Crow Sound

Lies at the North end of *St. Mary's*, and close by it, is a Bar Channel having no more than 4 feet on the Bar at low water. The tide here sets out S. E. at three quarters flood, continues till three quarters ebb, and then runs back N. W. from the entrance of the Sound to the Bar, where you will meet with the tide, which sets into *St. Mary's Road* W. S. W. To enter into *St. Mary's* by *Crow Sound*, steer in about W. N. W. till you come almost to a low point called *Sandy Bar*, then keep *Nut Rock*, (a Round Rock in the South part of *Samson*) about W. by S. so you will go close by the *Crow Rock*, leaving it on your starboard side. This Rock is above water at half tide, and between it and the shore are no more than 6 or 7 feet, at low water. When a little past the *Crow Rock*, steer over to the Southward to avoid running upon the *Pots*. Let *Nut Rock* bear W. N. W. about two cables length from you, and then you may anchor in clean good holding ground, where you will have 5 or 6 fathoms, at low water, spring tides.

N. B. This Channel is dangerous, as well as

3° Smith's Sound,

Which lies on the west part of *St. Agnes*: This is very narrow, and does not shew itself; but it is good, and has deep water. As you come from the southward, you leave *St. Agnes* on your starboard side, and
all

All the western scragged rocks and islands, on the larboard, keeping the *Castle Bryar*, (a high round rock to the westward of *Bryar*) on with the *Great Smith*, another rock to the N. W. of *St. Agnes*; you run in on that mark till near the said *Smith*, then steer over towards *Annet*, and give it a birth; afterwards you steer away for *St. Mary's Road*. The tide sets out S. E. at 4 hours flood, and continues till 2 hours ebb, running pretty nigh the same all through the western necks and rocks, as far as the *Bishop*; but to the northward of that, you will meet with the harbour tide mentioned in the next, or

4° Broad Sound.

This found becomes dangerous when ships are unacquainted with the setting of the tides. There are two passages leading into it, viz. the *South West* and the *North West Channel*. To go through the *South West Channel*, which is the best of the two, you must sail in between the *BISHOP* and the *CRIM*, the two westernmost rocks of *Scilly*, and pretty much above water, about 1 mile and $\frac{1}{2}$ asunder, and about N. and S. from each other; then steer in N. E. by E. leaving the *Gunner* on your larboard hand, and keeping the *Little Ganbilly* (the nearest big rock to the S. E. of *St. Martin's*) open of *Bantscarran* on the north part of *St. Mary's*, which mark will run you directly into the *Road*.

But suppose you should fall in with the *Bishop* and *Clerks* at low water; for about half an hour and no more, the tide sets N. W. and if you stand to the northward, the tide trims round till you leave all the islands on your starboard side; then you will have about a mile from the shore, a true tide setting E. N. E. as on the other side of the islands, away to the eastward. At the *Bishop*, at this half hour's flood, you will have an E. N. E. stream all the way to *St. Mary's Road*, and also as far as *St. Martin's Head*; but then you must mind not to go too far to the southward among the rocks; for as the tide flows, it parts, turning away to the southward, and if you run too far to the northward it does the same; therefore you are to take short trips to get out. But if the weather is so bad that you cannot carry sail, or if you find a contrary tide, then steer in S. E. by N. from the *Bishop*, or *Crim*, and fear nothing. When you come the length of a net-head, haul off N. E. for the *Road*, to avoid a ledge of rocks called *Old Wreck*, if the ship is large and the water low; but if the waters are high, don't fear it, for there are 12 feet on it, at low water.

To sail into the *North West Channel* of *Broad Sound*, keep the *Light House* on *St. Agnes* a sail's breadth open to the westward of *Great Smith*, and run in on that mark till you are come within a mile of the rock, then steer for *St. Mary's Road*.

The NUN DEEPS are a ledge of rocks which shew themselves just at low water, and lie from the *Crim N.* by E. about 1 mile and $\frac{1}{2}$. Should you fall in to the northward of the *Crim*, they are exceedingly dangerous, unless you are well acquainted with the *North West Channel*; but this Channel ought never to be attempted without having a good Pilot on board.

5° New Grimsby.

NEW GRINZEY, or, as it is vulgarly called, NEW GRIMSBY, is an excellent harbour, only small and narrow. You come in from the northward between the islands of *Tresco* and *Bryer*. There are two rocks called *Kettle*, and *Kettle Bottom*, just off the point of *Tresco*, which shew themselves always above water; you sail in by them, keeping your starboard head land close aboard. You may anchor opposite the round peaked Island, called *Hangman's Island*, within the harbour, close over to *Bryar*, in 5 fathoms. It is very narrow here, and you ought to moor, or you may farther in lie a-ground at low water. In this harbour the tide runs as follows:—

From the Northward at low water, it sets in an hour and a half, then sets out 3 hours, turns and sets in 4 hours and a half, till it is half ebb; then it turns and runs out the other three hours till low water. But between *Samson* and *Bryar Islands* the tide sets in 8 hours from the westward, from low water till 2 hours ebb, and then runs out to the westward till low water.

6° Old Grimsby, &c.

OLD GRIMSBY, ST. HELEN'S GAP, and TEAN SOUND, are tolerable good anchorages, pretty safe, but narrow and intricate, and not to be used without a Pilot. *Old Grimsby* and *St. Helen's Pool* are both good places for small coasting vessels, or such as will lie a-ground; you will have 12 or 8 feet in *Old Grimsby*, at low water, spring tides. The entrance from the northward is deep, and when your ship is in, you are all land-locked, and may go to sea with all winds. In these sounds the tide runs alike; at low water it sets in from the northward, running away S. E. 9 hours, until it is half ebb by the shore; then it turns back for the other 3 hours, till low water.

7° St. Martin's Head.

ST. MARTIN'S HEAD is the westernmost point of the islands, on which there is a land-mark in the form of a steeple, 40 feet high. Between this island and those to the eastward of it, there is a sound
through

through which small vessels may come in; but few enter that way without being acquainted with the marks, or with the settings of the tides, which are as follow:—

The tide that comes in from *Broad Sound*, sets through *St. Mary's Road*, and so runs out E. N. E. through the above sound. But as soon as you open the sea to the northward of the head land, you will meet the tide at 4 hours flood, coming round into the E. N. E. stream, and that makes the *Race of Hingeg*; it gets the victory, and sets away S. by W. as far as *Mennawethen Island*, where meeting with *Crow Sound* tide, which sets out S. E. it makes a great Race at spring tides, and both tides go off to the southward together.

It is high water at all the Islands of *Scilly*, at full and change, that is, E. N. E. and W. S. W. and it rises at ordinary tides, 18 or 20 feet. With moderate weather, in and about the islands, it flows E. N. E. and at neap tides, with a northerly wind, N. E. But when it blows hard, or has done so, and the wind is out to the southward, it flows above an hour longer, while a northerly wind puts it as much back.

The Poul Bank, &c.

Lies five miles south westward from *Goreggan*, and has 15 fathoms water. Its mark is *St. Agnes Light House* on with the N. W. point of *Millegan*, through the middle of the *Goreggan*.

“ In the stream of *Scilly*, (says Captain *Hayter*) ten leagues to the windward, there is a small bank, on which you have 30, 35, and 40 fathoms. Captain *Samuel Jones* has been sounding upon it.”

Another Bank, according to Captain *Collins*, lies 20 or 22 leagues W. by N. and W. N. W. from *Scilly*. On this there are 50, 51, and 52 fathoms; and, between it and *Scilly*, 60 fathoms.

A T A B L E

Of the Courses and Distances in the Channel along the English Coast.

Names of Places.	By Compass, in 1786.	Corrected Courses.	Dist. in Leag.
From the South Foreland to <i>Dunge Nefs</i> - -	W. by S. westerly.	S. W. by W.	7 or 8
—the <i>Gunman</i> - -	S. S. W.	S.	3 $\frac{1}{4}$
Dover Cattle to the <i>Rip-raps</i> - - - -	S. S. W.	S.	4
Dunge Nefs to <i>Beachy Head</i> - - - -	W. by N. northerly.	W. by S.	10
Beachy Head to the <i>Sea Owers</i> - - - -	W. N. W.	W.	13
— <i>Dunnofe</i> - - -	W. by N. northerly.	W. by S.	19
The <i>Owers</i> to <i>Dunnofe</i>	W. by N. northerly.	W. by S.	7 $\frac{1}{2}$
<i>Dunnofe</i> to <i>St. Catherine's Point</i> - - - -	W. southerly.	W. S. W.	2 $\frac{1}{4}$
— <i>St. Alban's Head</i>	About W. by N.	W. $\frac{1}{4}$ N.	12
—the <i>Bill of Portland</i>	W. N. W. or W. by N.	W. or W. by S.	16
<i>St. Catherine's Point</i> to the <i>Needles</i> - -	N. W. northerly.	W. N. W.	4
— <i>Peveral Point</i> -	W. N. W. northerly.	W. $\frac{1}{2}$ N.	8
— <i>St. Alban's Head</i>	W. by N. northerly.	W. by S.	10
The <i>Needles</i> to <i>Durlstone Head</i> - - - -	W.	Near W. S. W.	5
— <i>St. Alban's Head</i>	W. southerly.	W. S. W.	7 $\frac{1}{2}$
—the <i>Bill of Portland</i>	W. $\frac{1}{2}$ N.	W. by S. $\frac{1}{2}$ S.	11 or 12
<i>Durlstone Head</i> to the <i>Bill of Portland</i> -	W. by N.	W. by S. nearly.	8
<i>Portland Bill</i> to the <i>Berry Head</i> - - - -	W. by N. $\frac{1}{4}$ N.	W. $\frac{1}{2}$ S.	13
—the <i>Start Point</i> -	W. northerly.	W. by S. $\frac{1}{2}$ S.	16 or 17
The <i>Berry Head</i> to the <i>Start</i> - - - -	S. W. or S. W. by W.	S. S. W. or S. W. by S.	4
The <i>Start</i> or (rather <i>Praul Point</i> to the <i>Bolt Head</i> - - -	W. N. W. nearly.	W.	2 $\frac{1}{2}$
—the <i>Mew Stone</i>	N. W. by N.	N. W. by W.	6 $\frac{1}{2}$
—the <i>Eddystone</i> -	W. N. W.	W. or W. $\frac{1}{2}$ S.	7
— <i>St. Anthony's Head</i> , or <i>Falmouth</i> - -	W. N. W. nearly.	W. or W. $\frac{1}{2}$ S.	19
—the <i>Lizard</i> - -	W. $\frac{1}{2}$ N.	W. by S. $\frac{1}{2}$ S.	21

Continuation of the Table of the Courses and Distances in the Channel along the English Coast.

Names of Places.	By compass, in 1786.	Corrected Courses.	Dist. in Leag.
From the Bolt Head to the Eddystone - -	W. by N. $\frac{1}{4}$ N.	W. $\frac{1}{2}$ S.	6
—Ram Head - -	N. W. $\frac{1}{2}$ W.	W. by N. $\frac{1}{2}$ N.	6
—Dodman - -	W. N. W.	W.	14
—Falmouth - -	W. N. W. or W. by N.	W. or W. by S.	18
The Eddystone to Ram Head - - -	S. W. $\frac{1}{2}$ S.	S. by W. $\frac{1}{2}$ W.	2 $\frac{1}{2}$
—Dodman - -	W. N. W. $\frac{3}{4}$ N.	W. $\frac{1}{2}$ N.	3
the Hand Deep	N. N. W. $\frac{3}{4}$ N.	N. W. $\frac{1}{2}$ N.	4 $\frac{1}{4}$
the Lizard - -	W. southerly.	W. S. W.	15
Ram Head to the Dodman - - -	About W. by N.	W. by S.	9
—the Lizard - -	W. $\frac{1}{2}$ S.	W. S. W. $\frac{1}{2}$ S.	16
—Hand Deep - -	W. by S.	S. W. by W.	3 $\frac{1}{4}$
—St. Anthony's Head	W. $\frac{1}{2}$ S.	W. S. W. $\frac{1}{4}$ W.	13
The Dodman to St. Anthony's Head - -	W. S. W. $\frac{1}{2}$ W.	S. W. $\frac{1}{2}$ W.	4
—the Lizard - -	S. S. W.	S. W.	8
The Lizard to the Praul, or Start Point - -	E. $\frac{1}{2}$ S.	E. by N. $\frac{1}{2}$ N.	21
—the Ram Head -	E. by S. $\frac{1}{2}$ S.	E. by N.	16
—the Wolf Rock -	W. by E. $\frac{1}{2}$ N.	W. $\frac{1}{2}$ S.	8
—the Land's End	N. W. by W.	W. by N. northerly.	6
—Scilly Islands -	W. N. W. westerly.	W. southerly.	16
The Land's End to the Wolf - - -	Near S. W. by W.	S. W. $\frac{1}{4}$ S.	3 $\frac{1}{2}$
—Cape Cornwall -	N. N. E.	N.	1
—the Seven Stones -	W. N. W. northerly.	W. $\frac{1}{2}$ N.	7
—Scilly Islands -	N. W. by W.	W. by N.	7 $\frac{1}{2}$

C H A P. XI.

*From Cape Cornwall to the Northward.*S E C T. I. Hartland Point—Padstow—Lundy Island
—Flatholm Island and Light House, in the Bristol
Channel, &c.

FROM *Cape Cornwall* to *Hartland Point*, the coast lies about N. E. and S. W. 25 or 26 leagues. There are no ports of any note between those capes, except *St. Ives*, and *PADSTOW*, which are both Bar-Harbours, and dry at low water. The first is about 4 leagues and $\frac{1}{2}$ to the westward of *Cape Cornwall*, in a sandy Bay, and the other about 10 leagues from the same Cape. In sailing to this port from *Lundy*, you will make *Trevoſe Head*, (a round hill) like an island, with the *Quays*, or *Rocks* to the westward of it: they bear W. 2 leagues from *Padstow*, and there is a passage between them and *Trevoſe*. By these *Padstow* is easily known. As you sail down for *Trevoſe*, you will open the harbour; you may keep close either to *Gun Rock* or *New Land*, and in coming in, close to *Steeper Point*.

From *Hartland Point* to the ISLE OF LUNDY, which is just in the entrance of *Bristol Channel*, the course is N. by W. nearly about 10 miles. This Island, which is very high, has but 2 miles in length North and South; its middle lies in 51 deg. 10 min. north lat. To the westward of it you may anchor in great safety, from westerly winds, in 9, 10, 11, or 14 fathoms, good ground.

From the isle of *Lundy* to FLATHOLM ISLAND the course is E. by N. $\frac{1}{2}$ N. 17 or 18 leagues. Vessels going up the BRISTOL CHANNEL ought not to stand above 8 or 9 miles to the northward of *Lundy*; they must keep the English shore on board as far as *Hurſton Point*; and, if in the night, or hazy weather, keep in 12 or 14 fathoms; then they steer to the northward for *Flatholm Island*, upon which a Light House has been erected; and where they take a Pilot for going up. About 3 miles W. by S. from *Flatholm*, there is a very small sand bank with only 6 feet at low water upon it, of which you get clear, in bringing *Portſhead Point* open to the southward of *Flatholm*. You may

may approach the Island pretty near, and when beyond it, you steer to the Northward, till the *High land of Minehead* is brought on with the middle part of that same island; this will carry you to the north of the *English Ground*, a sand bank with only 9 feet upon it at low water, but over which, at half flood, merchant ships may sail without danger. At *Flatholm Island*, it is high water, on the full and change days, at 6 hours 40 minutes, and the tide rises 36 feet.

SECT. II. Milford Haven.

PART. I.

From *Lundy Island* to *Milford Haven*, the course is about N. W. by W. 13 leagues. From *Cape Cornwall* to *Milford Haven*, N. by E. 31 leagues; and from *Scilly Islands*, N. N. E. 37 leagues.

MILFORD HAVEN lies in *Pembrokeshire, South Wales*. It is commonly allowed, nor indeed can the truth of it be disputed, that this harbour is the most capacious, the most commodious, as well as the most secure in the *British Islands*, and with the easiest egress to sea. As there is no manner of danger in coming or going, you need no Pilots, and may turn in and out in perfect security with contrary winds (taking the tide) as well by night as by day. If a ship come in without cable and anchor, she may run ashore on soft oaze, and there lie with safety.

We are told that within the bosom of this Harbour, there are five large Bays, thirteen good Roads, and sixteen safe Creeks, in which, without a figure, a thousand ships of any size may lie, and not disturb each other.*

The sea shore near *Milford Haven* is about the height of the land of *Plymouth*, and at the entrance on *St. Ann's Point*, stand Two *Light Houses*, which you have on your larboard hand going in. On the eastern shore lies *Sheep Island*, N. by W. about $\frac{1}{2}$ a mile is a point with the ruins of an old Block House. This point lies E $\frac{1}{2}$ N. 2 miles from *St. Ann's Point*, and between the two is the mouth of the Harbour. Betwixt *Old Block House Point* and *Sheep Island* stands a large high rock, not unlike the *Mewstone*, at the entrance of *Plymouth Sound*; it is called *Rat Island*, and W. a little southerly from it, above $\frac{1}{2}$ a mile, lies a *Sunken Rock*, and 8 fathoms near it, on which you have 17 feet at low water, spring tides; but there is little danger from this Rock, as the Channel is above a mile broad between it and the western shore, which is bold to. From *Old Block House Point*, near a mile N. E. by N. lies *Nangle Point*, and *Thorn Island* close to it;

* *Oliver Cromwell* shipped off his forces from *Milford Haven* for *Ireland*; and in time of war kept a squadron of ships to rendezvous in this Harbour,

and less than $\frac{1}{2}$ a mile west by north from it, is another *Sunken Rock*, with 5 and 7 fathoms all round; this lies also a full mile from *Wethick Point* on the western shore. From *Thorn Island* N. E. by E. a large mile, stands a great Rock called the *Stack*, just within which are the *Inward Entrance* and *Nangle Road*, reckoned the best anchorage; here you may have 10, 12, 10, 8, 6, and 4 fathoms, and may anchor where you please, being all over the Harbour, clean good ground.

"To go into MILFORD HAVEN, (says Captain *Williamson*) run in N. E. by N, then haul up to the northward, and you will open *Dale Road*, which lies on the north side of the harbour, and is a good out-let. You may come to in 2 or 3 fathoms water, as soon as you open *Dale Town*. There is a deep bay on the larboard side, before you open *Dale Road*, which you must avoid; it has sometimes been taken for the Road, and is dangerous.

"From *Dale*, E. S. E. lies *Nangle Road*, on the south side, which is one of the Roads where large ships lie in 9 or 10 fathoms water. At about half flood all the *Slutch Bank*, lying in shore, is covered; there vessels run in when they cannot ride in the road, or want anchors or cables; a parcel of cobling rocks, called the *Oyster Rocks*, lie in the middle, being quarter tide stones, about 4 feet high, and frequently do not appear in the neap tides."

It flows in this harbour, full and change, East and West, 6 hours; the spring tides rise 36 feet, and the neap not above 26.

Milford Haven — Porgus Bank, &c.

P A R T II.

To complete the instructions given in the preceding Article, we beg leave to transcribe here the report made to the House of Commons in 1758, by the Committee appointed to inquire into the means of fortifying *Milford Harbour*:

"The Captains, Masters of ships, and Pilots, who have for many years used this Harbour, agreed in making the distance from St. *Ann's Point*, to *Nailand*, to be about 8 miles: That no navigation could be more safe; and that the whole Haven, from one of these points to the other, is very safe, and an excellent Road, there being no shoal or rock, but what appears above the surface of the water. That as to the depth of water, the largest ships in the Navy may sail from the mouth of the Harbour as far as *Laarennny*, which is 4 miles and a $\frac{1}{2}$ higher than *Nailand*, at which there are from 7 to 9 fathoms at low water, and where at the spring tides, it flows 36 feet: That the ships at *Nailand* have from 8 to 10 fathoms at low water, and the same depth at *Laarennny*: That the bottom in that part of the river is quite clean: That large ships get to *Nailand*

" in

“ in one tide, return back, even from *Laareny*, with any wind, and
 “ get to sea in another, which, if the wind be at North, South or
 “ East, a ship will do in two hours; and that upon the whole it is, for
 “ depth of water, safety and every circumstance, the best navigable
 “ river they ever knew.

“ Some doubts having occurred as to the facility of making the
 “ Harbour in hazy weather, from a Bank called *Porgus Bank*, which
 “ lies about 5 miles off the entrance of the Haven, and from a sup-
 “ posed inability to anchor, or avoid the Islands called the *Bishop*
 “ and his Clerks, (through which there is only one passage, and
 “ that little known) in cases when ships are driven by the mouth of
 “ the Harbour by strong southerly winds, Captain *Hill*, of his Ma-
 “ jesty's ship *Dover*, informed the Committee,

“ That he had been two years upon that station, and was ac-
 “ quainted with the navigation into *Milford Haven*: That in clear
 “ weather there could be no difficulty; but in hazy weather the tides
 “ setting excessively strong at coming with the land, if you should fall
 “ into the northward of the Harbour, he apprehends there would be
 “ great danger; because unless you have good Pilots, you would be
 “ driven upon the before-mentioned islands, especially as the whole
 “ ground to the northward, as far as he sounded it, is rocky and
 “ broken ground, and the soundings vary at once from 14 to 25 fa-
 “ thoms. But he added, that by making of *Lundy Island*, or any part
 “ of the coast, and by knowing properly the tides, a ship may always
 “ make a good course: That in moderate weather the tides are pretty
 “ regular; and that knowing the winds, you may always judge of
 “ the variation of the tides; That even in the case of being driven
 “ to the northward, a good Pilot may easily carry a ship clear of the
 “ islands, and into the *Irish Channel*. As to *Porgus Bank*, Captain
 “ *Hill* said, That it never had been reported to him in the soundings
 “ the master of his ship had made of it, to be more than 5 or 6 fa-
 “ thoms; he had been told it was less, and that it was 2 or 3 miles
 “ long, and very narrow.”

“ Mr. *Daniel Lamming*, Master of his Majesty's ship *Dorsetshire*,
 “ who has known *Milford Haven* ever since 1716, next informed the
 “ Committee, That in his opinion, there is no difficulty in making
 “ the Harbour of *Milford*, and that no Harbour can be attended
 “ with less: That there are two high hills, which as land-marks,
 “ may be seen 12 or 14 leagues off: That there is not a finer Har-
 “ bour in the world, and that the tides are not rapid. As to the
 “ *Porgus Bank*, he said he had sounded it frequently: That ten
 “ years ago he found it 6 fathoms and $\frac{1}{2}$ at a very low tide: That
 “ in his opinion it wears: That about 4 years ago, in the *Saltafb*
 “ man of war, he sounded this Bank, and found 7 fathoms and $\frac{1}{2}$
 “ at low water; that the bottom is gravel and sand mixed: That
 “ the Bank lies about 5 miles West from the Lights at the entrance

“ of the Harbour; and that so far from being, by its situation, “ a disadvantage or difficulty for ships making the Harbour, it would, “ in hazy weather, when the land cannot be seen, be a great “ assistance in finding it.”

“ A Captain of a ship who had used *Milford Haven* for 5 years, “ informed also the Committee, That no Harbour can be more easy “ made than *Milford*; that it is a very bold shore; that in clear “ weather you cannot miss the Harbour if you make a Point called “ the *Crow*; nor in hazy weather, if you make the islands, from “ whence you are sure of carrying the mouth of the Harbour: “ That in the supposed case of being driven by a South wind to the “ northward of the mouth, you may always tack and go to the “ westward; and even if you are afraid of running upon the islands, “ you may tack with the wind to the south, and stand clear again. “ That in the thickest weather the course cannot be missed, because “ the ground varies so much, the soundings will give a sure direction; “ nor can the Harbour be missed if the tides themselves are con- “ sulted.”

“ The Committee were also informed by a Pilot who had frequently “ founded the *Porgus Bank*, That he never found it less than 7 fa- “ thoms at low water: That he never saw the water break there: “ That it is a spit of sand running about one mile and $\frac{1}{2}$ W. S. W. “ and E. N. E. and that he has known it 14 years, and it does not “ lie in the entrance into the Harbour, in which evidence other “ witnesses concurred with him.

“ There is no great tide at any time in *Milford Haven*; at *Nailand* “ the current runs not more than 2 knots and $\frac{1}{2}$ in an hour. The “ tide has little force in the Harbour, from the width of it; it is “ an eddy entirely, and a ship may lie in any depth of water. At “ *Nailand* there is a cliff which will shelter ships from all weather.”

“ As to the winds with which fleets can sail from *Milford*, the “ Committee were informed, That fleets may sail, in moderate “ weather, with any wind from that Haven: And the Master of the “ *Dorsetshire*, in specifying the winds with which a fleet can sail from “ *Milford*, and cannot from *Plymouth*, particularly said, that a fleet “ may get out from *Milford* with a flowing sheet from S. E. to South, “ within neither of which Points of the Compass the same fleet could “ sail from *Plymouth Sound*.”

A T A B L E

Of the Courses and Distances without the Scilly Islands.

Names of Places.	By compass, in 1786.	Corrected Courses.	Dist. in Leag.
From Cape Cornwall to			
<i>Hartland Point</i> -	About E. N. E.	N. E.	26
- <i>Lundy</i> - - -	N. N. E. or N. E. by E.	N. E. or N. E. by N.	27
- <i>Milford Haven</i> -	N. E. $\frac{1}{2}$ N.	N. by E. $\frac{1}{2}$ E.	32
- <i>the Smalls</i> - -	N. N. E. northerly	N. $\frac{1}{4}$ W.	31
- <i>Tuskar</i> - - -	N. by E. nearly	N. $\frac{3}{4}$ W.	42
- <i>Kinsale</i> (Old	N. W. by N. N. W. W. by N. nearly	N. W. by W. W. N. W. W. $\frac{1}{2}$ S.	45 56 7
<i>Head</i>) - - -			
- <i>Cape Clear</i> -			
- <i>the Seven Stones</i> -			
- <i>Scilly Islands</i> (St.			
<i>Martin's Head</i>)	W. $\frac{1}{2}$ N.	W. by S. $\frac{1}{2}$ S.	9
Hartland Point to <i>Lundy</i>	N. by E.	N. by W.	3 $\frac{1}{4}$
Scilly Islands to <i>Lundy</i>	About E. N. E.	N. E.	35
- <i>Milford Haven</i>	N. E. $\frac{1}{2}$ E.	N. N. E. $\frac{3}{4}$ E.	37
- <i>the Smalls Light House</i>	N. E. by N.	N. by E. $\frac{1}{4}$ E.	35
- <i>Tuskar</i> - - -	N. E. by N.	N. by E.	45
- <i>Waterford</i>	N. by E.	N. by W.	42
(<i>Hook Tower</i>)			
- <i>Corke</i> (Poor)			
<i>Head</i>) - - -	N. by W. nearly	N. W. $\frac{1}{2}$ N.	42
- <i>Kinsale</i> (Old	N. W. by N. nearly N. W. by N. About E. N. E.	N. W. $\frac{1}{2}$ W. N. W. by W. N. E.	42 50 3
<i>Head</i>) - - -			
- <i>Cape Clear</i> -			
- <i>to the Seven Stones</i>			
<i>Lundy Island to Milford</i>			
<i>Haven</i> - - - -	N. W. by N.	N. W. by W.	13

DIRECTIONS

D I R E C T I O N S

F O R T H E

F R E N C H C O A S T .

C H A P. XII.

Between Dunkirk and Cape La Hague.

S E C T. I. *The Straits of Dover—Calais, &c.*

THE STRAITS OF DOVER, (called by the *French*, Le Pas de Calais) are bounded on the *English* side by that part of the *Kentish Coast* which extends about 2 leagues in a south direction, between the *South Foreland* and *Dover*; on the *French* side it is bounded by the coast of *Picardy*, running from *Calais* to *Cape Grisnez*; S. by W. 4 leagues. The width of this Channel is not much above 18 miles; but from the *South Foreland* to *Calais*, there are about 22; and from *Dover* to *Calais* about 21.* “ The run from *Dover* to *Calais* (says

* The distance between *Calais* and the Castle of *Dover* has been Geometrically ascertained in 1681 by Messrs. *Picart* and *La Hire*, two astronomers of the *Royal Academy of Sciences*. In the morning of the 20th of *November*, when the sea was very low, they measured upon the Strand of the Harbour of *Calais*, a line drawn from

(says Mr. Dutens, in his *Itineraire de l'Europe*) "is shorter than that from Calais to Dover, because in the first case the tide is always more favourable; 3, 4, or 5 hours make a good passage; I have crossed it 20 times, and have never been above 12 hours. Six hours is the most common."

The tide in the Straits sets N. E. by E. and S. W. by W. the flood running towards N. E. and E. N. E. and the ebb S. W. and W. S. W.

Father Gouge, the Jesuit, a Member of the Royal Academy of Sciences in the year, 1712, communicated to that society, an observation made by a sailor, who, by sounding in this channel, had found that the water rose higher in the middle, during the ebbing tide, on the opposite shore, than at the time of high water. This phenomenon at first seemed strange, but after a little consideration, it appeared very reasonable, that the waters which returned from the coast of England, and those that came from the coast of France, at the same time, meeting in the middle, should support one another, and consequently increase the depth of the channel. And indeed, without being well versed in the theory of the tides, it is obvious from the nature of water, that the less room it takes, the deeper it must be. Since therefore the waters of any sea whatever occupy a less space while the tide ebbs, than while it flows towards the shores, it seems plain that it must be deeper in the former, than the latter case.

The depths of the Straits is from 18 and 20 to 24 fathoms water, fine sand; along the French Coast, at a league's distance from land, you have 18 or 19 fathoms, and in the middle of the channel, 23 or 24; but towards the English coast it grows shallower.

CALAIS, in coming from the sea, appears like an island with two or three steeples, one much larger than the other. The entry into the Harbour is formed by two good jetties of wood; that which is on the west side is 365 fathoms long; 66 fathoms of the other are built of stone with a parapet; the remaining part is of wood carried 407 fathoms into the sea. The ends of the jetties lie S. E. and N. W. and to the East of them there is a bank which makes it a very difficult matter to get into the Harbour. The Harbour itself lies

from the point of the Bastion of the *Risbank* next the sea towards *Boulogne*, of 10,000 French toises. Having placed a quadrant at the point of this Bastion, and observed the angle which the measured basis made with the intermediate point between the two most visible towers of the Castle of Dover, they found it to be 37 deg. 58 min. then removing the instrument to the other extremity of the base line towards *Boulogne*, they measured the other angle, and found it 137 deg. 30 min. whence they concluded that the vertical angle at the Castle of Dover, must be 4 deg. 32 min. and consequently the distance between the point of the above-mentioned Bastion of the *Risbank* of Calais, and the Castle of Dover, 21,363 French toises. Now, according to the learned D'Anville, the English statute mile being equal to 826 toises, this distance will be above 24 and $\frac{1}{2}$ statute miles, and very near 21 $\frac{1}{2}$ Nautic miles, supposing the degree of a great circle to contain 57,060 toises.

East

East and West, as the town does, at the east end of it there is a basin, called the *Paradise*, enclosed with quays and a jetty of wood, wherein there is room for 32 vessels of 150 tons. The rest of the harbour contains about 160 ships of different sizes, to frigates of 18 or 20 guns.

In sailing into the Harbour, which is rather dangerous with a Northerly wind, you must keep the mill at the East of the town, right over the *Eastern Jetty Head*, and so run in close by it, keeping the Citadel to the West.

When you are within the Jetties, steer to the eastward for *Paradise*, where you will lie dry at low water. It is not very safe to enter till it is almost high water, on account of the strong tides, and of the anchors of ships—The water at the head of the Jetties, rises 21 feet, and within the entrance from 15 to 17 and 18, according as the wind happens to blow.

In consequence of a regulation observed since the 1st of Nov. 1772, as soon as there are 8 or 9 feet water, in the harbour of Calais, notice is given of it by a flag in the day time, and a lanthorn during the night, placed on the *Jetty Heads*, and which are gradually hoisted according to the progressive rising of the water; the same is observed in the harbour of *Dover*.

The *Road of Calais* lies at a considerable distance to the N. W. of the Harbour; it is sheltered by a Sand-bank, which begins a little to the westward of *Fort Lapin*, and gradually lessens till it ends in a point over against *Fort Vert*. Ships may anchor near this Bank in 10, 12, 15, or 18 fathoms water, when the tide is at the lowest. The ground is gravel mixed with mud, which makes excellent anchorage.

SECT. II. Gravelines — Dunkirk, &c.

Between *Calais* and *Dunkirk* the coast lies E. by N. dist. about 7 leagues. Six miles to the eastward of *Calais* is *Waldan*, with a flat church that has a small spire steeple; the land is low, with little Hummocks or Sand Hills. Three miles further is the town of *Oye*, with a spire steeple also, but much higher than the former: the lands shews much the same. Three miles to the eastward of *Hoye* is *Gravelines*. You may sail along the Flat called *Nieuland*, which runs at some distance from the shore, almost as far as *Calais*, or cross it in 3, 4 or 5 fathoms water.

GRAVELINES has a tall spire steeple, and is easily known, by two mills, one at the west end of the town, the other at the east end. As you come from the sea, the town appears like an island; the land low and full of hummocks; and a little to the eastward of it stands an old monastery. This Harbour being dry at low water, must

must be entered at high tide; there are two Beacons, which you bring on in a line, and then you may sail in between the Jetties. On the west side there is a Sand, and when you come from *Dunkirk*, lies another a good way off, both which you must avoid.

Six miles to the eastward of *Gravelines* is *Old Mardick*, known by a square steeple; 3 miles to the eastward of it, *New Mardick*; the land all along appearing as before described; and three miles further East, is

The town of *DUNKIRK*, which is known chiefly by its *Large Church*. The Road of *Dunkirk* is reckoned one of the best and securest in Europe; it lies at the distance of 2 miles $\frac{1}{2}$ from the town, about 3 from the new harbour of *Mardick*, and is sheltered by the *Brack*, a Sand bank, extending parallel to the shore, 2 leagues, East and West: upon this bank, the sea is not above 4 feet deep at low water, and therefore ships cannot get over it, but in the time of the flood: but there are two channels, one at each end of the Road. Behind the *Brack* to the eastward of *Dunkirk*, you may anchor, sheltered from a N. W. North and N. E. wind, in 2 fathoms at low water, but it shoals more to the shore: In the Road you may anchor to the East of *Dunkirk*, almost close to the Jetties, in 9 or 10 fathoms, very good holding ground, being clay mixt with sand; and to the West in 6, 7, or 8 fathoms water.

To sail into the Road through the WEST CHANNEL, as soon as you have brought *Gravelines Steeple* S. by W. you come abreast of the *Wilbraert* or *Wilbert Sand Head*, between which and the *Bree* or *Broad Bank*, is a wide channel. Both Banks have no less than 3 fathoms and $\frac{1}{2}$ at low water, on their west ends; but the first is gradual, and the other steep to. Between the westernmost part of the two Sands you may either steer in, or turn by your lead, till you come to bring *Gravelines Steeple* to touch the *Sand Hill* in *Gravelines Road*, which you are not to shut in till you open *Mardick Tower* to the eastward of * *Berg Steeple*, and that to shun the *Splinter*: This Bank is steep to, and has no more than 6 or 8 feet at low water. If you have a leading wind, as soon as you have opened *Berg* to the eastward of *Mardick Tower*, or brought that tower on the *West Pier Head*, you may haul in directly for *Mardick Pier Head*, till you have shot within the *Braeck*, which you will know either by deepening your water, or bringing † *La Fernouke Steeple* between the *West Battery* and the *Risbank*; then you may steer by your lead, into what part of the Road you please.

To sail out from *Dunkirk Road* through the EAST CHANNEL, you must attend to the sands next the shore; these being very gradual, are more to be depended on than the *Brack*, which is steep to. You

* An inland town 2 leagues to the southeastward of *Dunkirk*.

† A village one league to the East of *Dunkirk*.

borrow on them till you bring *Berg Steeples* within half a ship's length to the westward of *Zudcote Steeple*; * and keeping them so, you are to sail out directly between the tail of the *Brack* and the *Cams Bank* where you will have no less than 5 or 6 fathoms at low water. But as soon as you deepen your water to 9, 10, or 11 fathoms, you are then entered the *East Channel*, and must haul up E. by S. or more southerly, till you shoal to 7 fathoms. Keep in that depth, borrowing on the *Cams* or *Broers*, or steering out into the Channel in 11 fathoms, you will find that an E. by N. course will carry you all the way to *Nicuport*.

To sail into *Dunkirk*, you must bring the innermost Beacon a handspike's length to the eastward of the outermost, steer with them close to the east Beacon, till you get into the Channel between the jetties, which will bring you safe into the Harbour. The tide rises here 12 feet.

In the Month of August 1776, the Board of Admiralty of *Dunkirk* gave the following Notice to Navigators, viz.

“ In consideration of the advantages which navigation has reaped
“ from the *four Buoys* placed to the West of the *Road of Dunkirk*,
“ according to the general information given in 1774, which gave
“ notice that Navigators in entering the *Road*, through the *West*
“ *Passage*, would meet with the *First Black Buoy*, on the East Point
“ of the Bank, called *The Geere*, at the Entrance of the *Road*, which
“ they are to leave on the Starboard Side.

“ A *Second*, likewise Black, at the Point of the Bank, named *Snau*,
“ or *Splinter*, opposite to *Great Mardyck*, which they leave also on
“ the Starboard Side.

“ A *Third White*, at the West Point of the Bank *Brack*, which
“ they are to leave on the Larboard Side.

“ And a *Fourth, Black*, at the Point of the *Plateau of Mardyck*;
“ that is to say, at the most advanced Point of the Strand, opposite
“ the *Channel of Mardyck*, which they are to leave on the Starboard
“ Side.

“ Navigators will therefore observe that the *Three Black Buoys*
“ above-mentioned are on the Land-Side, and the *White One* in the
“ Offing.

“ It has been resolved by the Officers of the Admiralty established
“ for *Flanders* at *Dunkirk* aforesaid, with the advice of the Deputies
“ of the Pilotage, to order *Two more Buoys*, to be laid at the *East*
“ *Channel*, to point out its Entrance.

* The first village by the sea-side to the eastward of *Dunkirk*.

" Vessels coming from the Northward, and intending to enter
 " *East Channel* or *Passage*, will find on the North Point of the Bank,
 " named *Trapezeer*, or *Cams Bank*, a Black Buoy, which they are
 " to leave on the Larboard Side.

" And on the East Point of the Bank, named *The Helst*, which is
 " a Continuation of the *Brack*, a *White Buoy*, which they are to leave
 " on the Starboard Side."

S E C T. III. St. John's Road — Boulogne — Dieppe, &c.

From *Calais* to *Cape Grisnez*, the coast, as we have said before, runs S. W. by W. 4 leagues; but the proper course is S. W. and N. E. About midway lies *CAPE BLANCNEZ*, so named from the whiteness of its cliffs, which may be descried at 6 or 7 leagues distance: It is known among us by the name of *Calais Cliff*. Between *Grisnez* and *Blancnez* you may cast anchor, and wait for the tide, when the wind is contrary; the best anchorage is to the N. W. of *Wissan*, near the *Anclin Bank*, from 4 to 15 fathoms, good ground. The land all along is mountaneous and pretty high.

From *Cape Grisnez* to *Boulogne*, the coast runs South, 3 leagues. Two miles to the southward of the Cape lies *St. John's Road*, where you are secured from the N. E. the East. and S. E. winds; but when they come about to the South, and as far as the North and N. W. then it becomes very bad, the sea being rough and no shelter near. The anchorage is from 9 to 15 fathoms. You must take care to keep in sight of the Tower of *Ambletuse* through the middle of the houses, and not to come too near the land on account of some rocks that lie about a large cable's length distant from the shore. Between this Road and the Tower on the North point of *Boulogne*, (called *Tour d'Ordre**) there are also several rocks under water, 2 or 3 cables length from the shore, which must be carefully avoided.

The

* The *Tour d'Ordre* was originally a Light House built by the Romans under *Caligula*, when that Emperor was at *Boulogne*, and pretended to make preparations for sailing with his fleet to *Britain*: It was repaired by *Charles the Great*, and afterwards in 1545 by the *English*. The rock on which the Tower was built, being at last undermined by the sea, they both fell down on *July 29, 1644*. The edifice was worthy of the *Roman* grandeur, and its description will not be unseasonable. It was built in the form of an octagon; each of its sides was near 27 feet in length, the whole circumference being 214, and its diagonal almost 39. It had 12 entablements or galleries, all visible on the outside, except the lowest, which was covered by the fort of the *English* had built round it. Each entablement was taken off the breadth of the wall below it, and formed a kind of gallery of a foot and a half in breadth. By this means it decreased gradually as other Light Houses do, to the top, on which a fire was lighted every night to direct the ships which sailed into the Channel.

The Harbour of *BOULOGNE* is dry at low water, and almost barred by a Sand bank which lies N. E. and S. W. Over the N. E. end of it there is a Buoy, and at the S. W. extremity a mast is erected having a lanthorn on its top. This Bank may be passed on two sides, that is, by the North and by the South in $2\frac{1}{2}$, or 3 fathoms water. The tides in this Port are S. S. E. and N. N. W. the flood is North and N. N. E. and the ebb South and S. W.

From *Boulogne* to the mouth of the river *Somme* to the coast, runs due South, 9 leagues; and from thence to *Dieppe*, it bends to the S. W. for about 11 leagues. The only Harbour of some note in this tract is, the Port of *St. Valery* in the River *Somme*, whose entrance is very difficult. The shore as far as *Treport*, about 7 leagues to the north eastward of *Dieppe*, is all sandy downs, and the land of a moderate height; at *Treport* the white cliffs begin. In sailing along, there are 6, 8, 9 and 10 fathoms water with sand and marl, within 5 or 6 miles of the shore, and from 16 to 18 further off, except upon the *BASSE HUREL*, where you have but 3 and 5 fathoms; this is a Bank about 7 miles from the mouth of the River *Somme*, lying N. E. and S. W. 12 miles in length and only 2 in breadth. About 4 miles to the westward of *Treport*, and more than 2 miles from the shore, there is a small ledge of sunken rocks 7 or 8 feet under water.

Along this coast it is high tide at 10 hours 30 min. The current of the flood is to the N. E. and that of the ebb to the S. W.

DIEPPE, is situated in the bottom of a valley between the cliffs, whence the town took its name, from the *Flemish* word *Diep*, which has the same signification with *Deep* in *English*. Coming from the sea you descry two high steeples and a large castle, which stands W. S. W. of the town. On the N. E. side are the suburbs of *Pollet*, and two stone jetties, between which lies the entrance of the Harbour. This entrance is very difficult on account of the great current both inward and outward. As soon as you have cast anchor in the Road of *Dieppe*, and even before, you are visited by Pilots, and those on land make a signal to enter when it is high tide. If you should stay till it ebbs, the rapid current outwards would render the entrance impossible; therefore you must drop anchor the moment you see the signals made by the Pilots on shore. Once in the Harbour,

nel. The layers of stone and brick with which it was built, were varied in such a manner, with a certain mixture of colour, that it rendered the aspect of the whole very agreeable. First were to be seen three layers of such stones as are to be found on that coast, of an iron coloured grey; next, two layers of a yellowish and softer stones, over them two rows of brick very red and hard, each being two inches thick, a little more than a foot long, and something more than half a foot broad. This order continued throughout the building, which must have been at least 160 feet high.

A Light House on the same spot would be exceedingly useful to navigators of all nations who come up the Channel.

which

which dries every tide, you come to the key, where you are well sheltered from all winds.

The Road of *Dieppe* lies to the West of the town, just under a small church, called *St. Nicholas de Cotecote*, whose steeple is remarkable, and the only one on the cliff. The anchorage is in 7 or 9 fathoms water, on a good bottom, where anchors never drive; whatever wind blows you are sheltered against winds from S. W. to S. E. but when it blows from the W. N. W. or N. N. E. the sea runs high and impetuous.

Two leagues and a half* West of *Dieppe*, is *Cape Lailly*, where the Chamber of Commerce, established at *Rouen*, has caused to be erected a *Light House*, which was lighted, for the first time, on the first day of *November*, 1775.

"The LIGHT HOUSE ON CAPE LAILLY is situated 80 fathoms from the edge of the Cliff, facing the rock named *La Galere*, which is the most considerable of those marked on the coast under the denomination of the *Rocks of Lailly*. It is on the top of the Cliff, facing the rocks that the Tower is built, which may be seen by a boat when at the entrance of the two-jetties of the Port of *Dieppe*. The whole height of the Light House measuring from the ground, is 56 feet; the lanthorn 15."

St. VALLERY EN CAUX, lies about 3 leagues westward of this Light House; in sailing along you must keep a little wide of the shore, to avoid the above-mentioned *Rocks of Lailly*, which lie off the land almost half a league. Between the two places the shore is bound by a high white cliff, which has but 2 openings; *St. Vallery* stands in a third. At the new and full moon the tides rise in this Harbour from 16 to 18 feet; it may contain 30 middle sized vessels at a time, and of those 5 or 6 will always be afloat in a corner of it, where there are 24 feet water at low ebb. The Road is quite open to all winds; but about half a cannon shot from land, there is good anchoring.

From *St. Vallery* to *Fécamp*, or rather *Fécan*, the coast runs to the W. S. W. for 5 leagues. The high white cliff continues with several woods and lofty trees on the top, a number of steeples and houses within land, and *Three Valleys*, which extend not quite to the sea, but give their name to this part of the coast. *Fécamp* stands in a broad valley, and is easily known by a church to its N. E. on the edge of the shore: vessels find easy access into the Harbour, whose mouth lies almost N. W. and S. E. except when it blows fresh from the West or S. W. There are two Roads before *FECAMP*, the Great and the Little; the Great Road lies over against *Criquebœuf* above 2 miles off. Ships lie there covered from all winds from S. E.

* According to the instruction of the Chamber of Commerce; but the Large Survey of *France* makes that distance scarce 1 $\frac{1}{2}$ league.

to S. W. in 16 fathoms at high water, and 13 at low water. The bottom is clay, red earth, or potter's earth mixed with sand, which secure the anchors so that they cannot drive. The *Little Road* opposite to the West side of the Harbour, has from 10 to 7 fathoms water according to the tides.

From *Fécamp* to the southernmost pitch of *Cape d'Antifer*, (*Cape d'Antiber*, or *Cape de Caux*) the coast runs S. W. by W. 3 leagues, all white cliffs, steep and very high; to the North of the Cape are the rocks called LES EGUILLES (the *Needles*) D'ETRETAT. They lie near the shore S. W. $\frac{1}{2}$ W. and S. E. $\frac{1}{2}$ E. a league from each other; the northernmost, or *l'Aiguille de Belleval*, and the southernmost, called *Aiguille d'Etretat*, are two high rocks, white and sharp pointed; the middlemost, which is named *Roche d'Etretat*, is covered at high water.

Between *Tréport* and *Cape d'Antiber*, 2 or 3 leagues from the land, you have commonly 20, 19, 18, 17 and 16 fathoms water, and in several parts gradual soundings to the shore.

A S. S. E. moon makes high water all along this coast, and in the Harbours; or 10 hours 30 min. The flood setting N. E. the ebb S. W. and W. S. W. along the shore.

S E C T. IV. Havre de Grace.

Four leagues S. S. W. from *Cape d'Antifer*, is the south pitch of *Cape La Heve*, (or *Seine Head*) which is the end of the high white cliffs; about one mile to the S. W. of this Cape lies the small ledge of rocks, called *l'Eclat*, over which there are not above 7 or 8 feet water in common tides.

ON CAPE LA HEVE the Chamber of Commerce, already mentioned, caused to be erected, (in 1775) two Light Houses. " It has been thought necessary, (says their instruction) to distinguish it from the other by two Towers, and to place them in such a manner, that they cannot be seen in a line by any ships coming from the North, N. W. and West, in order that in coming from the Offing there may be no position in which they can be mistaken for the Towers of *Barfleur* (See Sect. V.) or *Lailly*, which are single.

" The Tower nearest to *Havre*, which is the southernmost, is placed 50 fathoms from the edge of the Cliff; the other bears N. 41 deg. E. by compass, or N. 25 deg. 34 min. E. corrected course, dist. 50 fathoms from the first; so that their respective direction is such, that if you draw a right line from the center of the first to the center of the second; and from the center of the first another line towards the North, the angle formed by these two lines, the point of which will be in the center of the first
7 " Tower,

* Tower, will be N. 41 deg. E. by compass, or N. 20 deg. corrected course.

" It follows from this position, that ships, making for the mouth
 " of the River *Seine*, or for *Havre*, will see the Towers in a line
 " only in one point, which is very hazardous to attempt before half
 " flood, especially when near the coast, considering the dangers
 " which encompass the *Little Road of Havre*. These Towers are
 " built with free stone; they are placed on a level, and are of an
 " equal height. The bodies of the Light Houses, measuring from
 " the surface of the ground, are fifty-six feet high; and the lanterns
 " fifteen feet."

There are two Roads for ships before the mouth of the River *Seine*, called the GREAT and LITTLE ROAD OF HAVRE. The *Great Road* is two good leagues from the Harbour, lies W. S. W. from *Cape La Heve*, and extends a whole league from North to South. In the year 1690, the whole *French* fleet lay at anchor there for several days. The *Little Road* is but half a league from the Harbour, and lies S. S. E. from *Cape La Heve*; it is of a square form, extending about $\frac{1}{4}$ of a league every way.

Excellent directions for the *Roads of Havre*, were given in 1776, by Mr. *De Gaulle*, a very eminent Professor of Hydrography in that town.

" A ship of a great draught of water, (says that Gentleman)
 " which should be obliged to lie several days at anchor off *Havre*
 " to wait for a high tide, must prefer the *Great Road* to the *Little Road*: These two Roads are separated from each other by Banks, which are called *les Hauts de la Rade* (the High Grounds of the Road) and *l'Eclat*. The *Little Road* is between these Banks and the land; and the *Great Road* without the said Banks. To lie in the good anchoring place you must be to the W. N. W. of *La Heve*, a large league, and keep the *Castle of Orcher* (which is seen on the edge of a steep shore to the eastward, of *Havre*, 3 leagues) a little open of the coast of *Ingouville*, which is to the Northward of *Havre*; then you anchor on oozy ground from 10 to 14 fathoms water, according as it is high or low water; in case of bad weather, you may lie on 2 anchors S. S. E. and N. N. W. The two first hours of the flood the current sets to the South, then 2 hours to the S. E. one hour to the East, and the remainder of the tide from N. E. to N. W.

" If at low water a ship was obliged to go into the *Little Road of Havre*, either to wait for the tide, or for a Pilot to carry her into the River, she must, if the winds permit, sail between *La Heve* and *l'Eclat*, (which as said above, lies one mile to the S. W. of *La Heve*). You must keep the Guard House which stands on the jetty of *Havre*, in one with the shore of the Chapel, (called *Notre Dame de Grace*) that you see a little to the westward of Hon-
 " fleur,

“*fleur*, and steer in that direction till the North of *La Heve* is shut by *La Heve* itself; then you steer to the southward, till you come half way between *La Heve*, and *Havre*, when you anchor in 3 or 4 fathoms at low water. The bottom of this Road is all pebbles and oysters, laid on a clay ground, which make the hold very good, but you risk to have your cables cut in a very little time, and on that account ships moor there only for one tide.—If it should happen that the winds from South to S. W. should not permit to go by the land side of *l'Eclat*, you might sail to the South of it, keeping the *Castle of Orcher* in one with the two Towers of the *Gate of Ingouville*, which you see joining the town in the north part of it; and you should steer with those marks on, till the North of *La Heve* is shut as above: Then you come to the anchoring ground in the *Little Road*; you may even anchor in This Pass, where you have not less than 4 fathoms at low water. These cautions are only necessary at low water, for when two-thirds of the flood are run, you may pass every where without danger. But ships come seldom into the *Road of Havre* without a coast Pilot on board; they go generally as far as *Barfleur*, and farther to meet them.” *

About one league S. E. $\frac{1}{2}$ E. from the south pitch of *Cape la Heve*, lies the town of *Havre*. The land between is low and full of wind-mills, which are without the town.

LE HAVRE DE GRACE, (called by us for shortness sake, *Havre*) is the sea port of *Paris*, lying at the mouth of the River *Seine*, on which the *French* metropolis is built: It stands upon a plain spot of ground gained out of the sea, which seems to be gradually giving way on this shore, and its harbour being entirely the work of art, requires continual industry to be kept in proper order. This lies within the walls of the town E. N. E. and W. S. W. and can contain about 300 vessels at once; but the French, in order to enlarge it as well as the town, have lately demolished the Citadel. In the highest tides the water rises within the Harbour near 20 feet: the entrance is formed by two jetties of stone, the longest of which is towards the west side.

* To these directions we beg leave to add the following observations of the famous *Belidor* on the *Roads of Havre*, [*Architecture Hydraulique*, Tom. I. p. 388, 389.] “It is of the greatest importance, [says he] to spare no expense necessary for putting the Harbour into a good condition, as all the world knows the *Road of Havre* is very bad, the bottom being of such a composition that an anchor can take no sure hold of it. It is besides full of what the sailors call *High Grounds*, that is little banks of sand, which the river *Seine* deposits in the time of low water; so that the anchors cannot withstand the violence of the currents nor high winds which commonly blow about the new and full moons: The ships which happen to be then in this Road, are in great danger of being lost at the mouth of the *Seine*, or driven against the coast, because they cannot get into the Harbour.”

The

The Harbour of *Havre* has a particular advantage, not only over the other sea ports of *Normandy*, but over those of the whole kingdom; it is that the water in it does not begin to ebb, at least sensibly, till 3 hours after full tide, insomuch that fleets of 120 sail, have often been observed to sail out of it in one tide, even with the wind against them. The cause of this uncommon effect is generally ascribed to the *Seine*, whose current, crossing the mouth of the Harbour, comes down with such force, as soon as the sea begins to retire, that it confines the water in the Harbour till it has spent its strength, which it does not generally in a shorter space of time than just now mentioned.

To enter the Port a Pilot is required, and there are always some attending in their sloops for that purpose, except in rough weather when they cannot come off; but in this case they go to the north end of the Harbour, and make you a signal. By this assistance, you may very well enter the Port, taking care to keep it always open, or in full view, so as to discover all the ships within, as they appear between the two Towers. In this manner you must steer till you are entered; observe to pass closer by the *Great Tower* on your larboard hand, than by the *Little Tower* on the starboard side.

Two leagues S. E. of *Havre*, on the opposite shore of the *Seine* lies HONFLEUR, a port of pretty large trade chiefly to the coast of *Guinea*. In the Channel there are several Sand banks, some of them shifting, which necessarily requires the assistance of a Pilot. From *Havre* to ROUEN, the chief city of *Normandy*, and one of the most considerable of *France*, the distance, on account of the windings of the River, is near 23 leagues; small vessels may go up to up as far as this city.

SECT. V. *From Havre, or Cape La Heve, to Cape Barfleur — Instructions relative to the Four New Light Houses of Normandy.*

From *Cape La Heve* to *Cape Barfleur*, the distance is 17 leagues and $\frac{1}{2}$ W. by N. and from *Cape D'Antifer* to *Cape Barfleur*, 18 leagues West nearly. Between the two last Capes, the sea forms a bay about 7 leagues deep, on the south and west coasts of which are several small Harbours which do not belong to our description.

CAPE BARFLEUR is a very low and long piece of land with a town of that name, which has a small dry harbour on the east side, fit only for vessels of 9 or 10 feet draught; the entrance is very easy, for it requires no more than to keep in mid-channel.

On *Cape Barfleur* stands the fourth Light House erected in 1775, by the Chamber of Commerce of *Rouen*, three of which have already been mentioned.

“ This Light House situated on the point of the rock which forms CAPE GATTEVILLE, level with the surface of the water, is raised on a base in order to preserve the foot of it from the breaking of the sea. From the foundation of this base the body of the Light House is 88 feet, and the iron lanthorn which contains the fire, is 15 feet high. The point of *Cape Gatteville* towards the sea, is near a quarter of a league from *Barfleur* to the North, forming a very low rocky point, running into the sea about 300 fathoms, and in a line with the steeple of the parish church of *Gatteville*, which stands on the summit of the coast. All the neighbouring coast is very rocky, of a kind of granite, of which the tower is built.

“ The respective position of the *Four Light Houses* is such, that supposing a vessel coming from the North, and desirous to come into *Havre*, they will see immediately the fire of *Cape Lailly*, (Sect. III.) which in fine weather they can keep sight of till they catch the fires of *La Heve*, (Sect. IV.) and ships coming out of *Havre* to go down the Channel, will not be long, after they lose sight of the said fires of *La Heve*, before they perceive that of *Barfleur*; or, in a word, ships coming from the sea, who would go either into *Havre* or *Dieppe*, after they see the three fires of the *Cassets*, will presently perceive the fire of *Barfleur*, which will direct them to the sight of the two fires of *La Heve*, if they are going to *Havre*, or to the fire of *Lailly*, if they are going to *Dieppe*.”

To these instructions Mr. *De Gaulle* has added the following ones:

“ The position of the fires of *La Heve* is N. N. E. 2 deg. 30 min. N. and S. S. W. 2 deg. 30 min. S. corrected, from which it results, that being in the North part, you can never see them in a line: Therefore, when sailing in the Channel, if you shall descry a fire, being single to the southward, without having previously seen the land, it cannot be any other but that of *Barfleur*, or the fire of *Lailly*; and whereas the mistake should be very dangerous, it will be proper not to steer your course before you have founded, to ascertain the place where you are, remembering that at an equal distance from the land, you have a much deeper water about *Barfleur* than near *Lailly*. From N. W. to N. of *Barfleur Light House*, at 5 or 6 leagues distance, you have between 35 and 40 fathoms water, rotten ground and rebounding lead. Three or 4 leagues from the same Light House, you have between 28 and 30 fathoms, coarse gravel; and very near the shore there are between 20 and 22 fathoms, coarse brown sand; but at *Lailly*, at the same distance of 5 or 6 leagues, from the N. W. to the N. E. of the Light House, you have only from 20 to 24 fathoms water, (see Sect. III.) mixed ground with pieces of reddish rocks, shells, gravel, and pebbles of various colours; and nearer the shore,

“ between

“ between 2 and four leagues from the said Light House, you find
 “ 18 and 20 fathoms water, same ground as before. You may stand
 “ in 15 or 16 fathoms water to the fire of *Lailly*; but it should not
 “ be proper to come nearer the shore.

“ A ship coming from the Westward, and who has made herself
 “ sure of the fire of *Barfleur*, is not to approach it nearer than 20
 “ or 22 fathoms water; and if this ship be bound for *Havre*; or for
 “ the *Seine* and that after having descried the two fires of *La Heve*
 “ she should be obliged to make tacks from North to South, either
 “ to wait for day-light, or for the tide, she is not to come nearer
 “ the south land than 14 or 15 fathoms water. (This to be under-
 “ stood also for the day-time) Likewise when at the mouth of the
 “ *Seine*, you are not to bring the two Fires of *La Heve* in one line,
 “ unless the two-thirds of the flood at least are run.”

When you sail from *Havre* in the night, or in thick weather, you are to take no less compass than E. S. E. frequently heaving your lead, and keeping, if possible, in 16 or 18 fathoms water. The ground in all that course is small, black, red and grey pebbles, like small beans, and with very little sand.

A S. E. moon at *Barfleur*, and a S. S. E. moon in the Offing, make a high water. The tides are very rapid round this Cape; the violence of their current causes great spoutings, which sometimes you will take for Breakers: This is called the RACE OF BARFLEUR.

SECT. VI. La Hougue—Granville Rock—Cherbourg and its New Road—Cape La Hague.

LA HOUQUE, or LA HOGUE, and St. Vaast which is its village, lie about 3 leagues South of *Cape Barfleur*. In this Harbour vessels meeting with contrary winds in the Channel, find shelter, and may wait safely for favourable weather; they come in or go out with any wind, and lay secure on a bottom of clay from all winds between W. S. W. and N. and between N. and S. S. W. nor is the sea ever rough, the Harbour being well covered. The water rises here 16 feet at common tides, and it is high water, at full and change, at 8 hours 45 min.

The ROAD OF LA HOUQUE, to the southward of the Harbour, is said to be the best of all those in the Channel; the anchor is in 5, 6, 7, 8, and 9 fathoms at low water; the hold very good, the ground being sand and clay. You are in perfect security from the winds at North, N. W. West, S. W. South, and S. S. E. and the sea is never so stormy as that ships should be driven from their anchors, if the cables are good.

To the N. E. of *Cape Barfleur*, about 2 leagues, lies **GRANVILLE** Rock, over which there are no more than 7 or 8 feet at low water. The Chart of *Blaeu*, in 1630, is the first in which notice has been taken of this Rock. *Du Bocage* described it in his "*Petit Flambeau de la Mer*," published towards the end of the last century, by order of *Colbert*. Mr. *Bellin*, the Royal Hydrographer, suppressed it in his Chart of the Channel in 1749, misled probably by the common report. Seamen are in general extremely apt to deny the existence of dangers which they have not seen themselves, and the more so when those dangers happen to lie near their own coasts, or in the most frequented seas. Repeated testimonies are scarcely sufficient to convince them; and one should think they are waiting till they strike and be a ground. Unhappily Sunken Rocks and Shoals, not generally known, are too common, not only in the middle of the Ocean,* but even in the *British Channel*, as it has been proved in the course of this work. The *Granville Rock* has had the fate of a great many others, that is, it has been considered as imaginary, since the last century, and Hydrographers have made a point of suppressing totally that danger. However, *M. De Gaulle*, in 1776, vindicated in his Chart, the veracity of *Blaeu* and *Du Bocage*: "The *Granville Rock*, (says he) which is near *Barfleur*, and whose existence appears uncertain to several seamen who have had no occasion of being acquainted with it, has been placed in this Chart, and in that of the Light Houses, which I have caused to be engraved by order of the Chamber of Commerce, from the bearings communicated to me by mariners of the greatest repute, and from a judicial report made to the Admiralty of *Havre*, the 25th of April, 1771. Besides, the harm is not great in taking heed of an uncertain danger; but I should be to blame, had I suppressed it in case that danger should exist, as we have room to believe it."

Mr. *De Gaulle* on the contrary is much to be praised; and if the blame is to fall somewhere, it must be upon the Chamber of Commerce, who having employed workmen and probably mariners on *Cape Barfleur*, never sent a boat to ascertain the existence, and determine the situation of *Granville Rock*,

* Consult on that subject, a Chart of the *Atlantic Ocean*, in four sheets, printed for *SAYER*. It is to be regretted that the Author has not published the Analysis which was to have accompanied that Chart, and wherein he entered into a critical detail of each *Vigia*, Rock or Shoal, &c.

From *Cape Barfleur* to *Cape Levy*, the coast bears N. $\frac{1}{2}$ W. 3 leagues and $\frac{1}{2}$; between are a number of Sunken Rocks, 2 miles from the shore, and among them those called the *Three Stones*; to the East of *Cape Levy* is one named the *Great Renier*, which lies further (near 3 miles) than the rest. In sailing along you must not approach too near the coast, but keep the mountain above *Cherbourg*, clear of *Cape Levy*. This Cape makes a great cove on the west side, which affords shelter from the East, S. E. and S. W. winds, with anchorage in 6 or 7 fathoms water, sandy ground.

CHERBOURG is 2 leagues S. W. from *Cape Levy*: N. E. of the town, about 2 miles, lies a little rocky island, called *L'Isle Pelée*, (*Bald Island*) which stretches about 800 yards in length from N. N. W. to S. S. E. and 600 in breadth from E. N. E. to W. N. W. It is almost always above water, unless at very high tides, and there are then 2 heads which are never covered, so that they may be very well avoided. It is very safe on the side towards the sea; but there is no passing from it to the land, except at high water with small barks, but not with a ship. The *Road of Cherbourg* lies directly before the town between this island on the East and the *Point of Hommet*, on the West side; having 8 and 9 fathoms at low water, fine sand, and the hold very good; the water rises 20 feet on full and change days.

From the *Point of Hommet*, to *Cape La Hague**, the coast runs W. N. W. above 4 leagues, having at about 2 miles from the Point a Head of Rocks, called *Point Querquerville*, and 3 miles further another Head of Rocks, called *Raz de Banne*, which projects half a league into the sea. It is all low land near the coast, but half a league within the land rises, and there appear many houses and churches. Under *Cape La Hague* are several Sunken Rocks, stretching near a mile into the sea due N. W. whence it is dangerous to approach this place within at least 2 or 3 miles. This Cape makes the eastern side of the *Raz Blanchard*, or *Race of Alderney*, which shall be described in the following Chapter.

Between the *Capes Barfleur* and *La Hague*, the tides are from half after 7 to 8 o'clock, and in the Offing half an hour after 10. The flood sets along the shore E. S. E. and the ebb W. N. W.

The French are now ENCLOSING THE ROAD OF CHERBOURG, by means of two artificial causeways, each about one mile in length. These are built with conical caissons of an immense size, which being immersed in the sea, are then filled up with stones, as well as the intervals between them. More wood is employed in a caisson, than in a first rate man of war; and when loaded each caisson will contain more than 25,200 cubic yards of stones, weighing above 52,400 tons.

* In several Charts and Navigation Books it is very improperly named *Cape la Hague*.

The causeway betwixt *Isle Pelée* and *Point du Hommet*, is almost complete, and consists of 18 or 19 caissons. The second causeway, between *Point du Hommet* and *Point Querqueville*, is not yet begun.

This Road will have 3 entrances, one at each end of the causeways, and another in the middle; the two first being above 1000 yards, the other about 800 wide, and each of them defended by a Fort. Two of the Forts are already finished, viz. That on *Isle Pelée*, called *Fort Royal*, which protects the *East Entrance*, and the Fort on *Point du Hommet*, called *Fort d'Artois*, that defends the *Middle Entrance*. The Fort on *Point Querqueville* is only begun. The part of the Road already enclosed is above 2 miles from east to west, and from north to south; but the opening from *Isle Pelée* to *Point Querqueville* is about $4\frac{1}{2}$ miles. The French pretend that the whole, when the works are finished, will be not only better and safer than the *Dorons*, or *St. Helen's*, but as good at least as the Road of *Spithead*. Within, and near the *Point du Hommet*, there, is a very convenient spot where they intend to dig a Harbour, and build docks, &c.

C H A P. XIII.

The Isles of Jersey, Guernsey, Alderney, &c.
by Captain DOBREE.

S E C T. I. Alderney—Race of Alderney—Passage
au Singe—*The Calkets.*

THE Island of ALDERNEY* (called AURIGNY by the French) lies near 3 leagues West of *Cape la Hague*, about 5 miles in length and 2 in breadth. On the North and West it is surrounded with Rocks, but the east side is pretty clean, as well as the south part, on which there is a place called the *Fort*, consisting of a battery that commands the little port of *Longy*.

Between this Island and *Cape La Hague*, is the *Raz BLANCHARD*, or RACE OF ALDERNEY, through which the current sets with such amazing velocity, that at spring tides it is supposed to run at the rate of 6 or 7 knots an hour. In the passage the tides set S. S. E. and N. N. W. Two miles to the North of the Race, S. E. $\frac{1}{2}$ S. and N. W. $\frac{1}{4}$ N. and to the South of it, N. E. and S. W. Off the east Point of the Island are several Sunken Rocks, but not reaching so far into the sea as those off *Cape La Hague*, therefore it is best to steer about mid-channel through the Race.

* Near this island, in the night between the 4th and 5th of *October*, 1744, perished Admiral *Balchin*, in the *Victory* of 110 guns and 1100 men. This ship had been separated by a storm from the fleet under the command of the Admiral, and sunk on the *Alderney Rocks*: parts of the wreck were found by the people of *Alderney*, who gave also an account that they heard in the night the discharge of near a hundred guns, signals of distress, which, on account of the boisterous sea, they were unable to obey.

Due South from *Alderney* about 2 leagues, and near 3 from the *Isle of Sark*, lies a bank called *LA CHOLE*, (from the word *Shoal*) which has no more than 12 feet at low water, spring tides. It is situated in the middle of the passage of the *Race*, in a straight line with the *Isle of Sark*: it is two leagues long, N. E. and S. W. but very narrow. The marks for the middle of the bank are *Alderney Mill North*, and the *Caskets N. W.*

West of *Alderney* lies a channel, about a mile wide, called *PASSAGE AU SINGE*, (*Ape's Passage*) between the western point of the island, and the *Isle of Buron*. There are some Rocks near *Alderney*, of which the furthest off, called *Corbet*, may be approached within pistol shot, as well as the *Isle Buron*. To the S. W. of *Buron* is *Ortach*, a huge Rock, close to which you have 14 and 15 fathoms water; and South of this easterly, at the distance of two large miles, lies the *Pierre au Wrach*, (the *Wreck Stone*) which requires great caution. It is of the size and in the form of a boat, but appears only at low water, spring tides; you find 15 and 16 fathoms water, close to it.

The *CASKETS* lie West of *Ortach*, at the distance of 3 or 4 miles: they are a cluster of Rocks, some above the sea, and the greatest part under water. On the largest of them stand *Three Light Houses*, in the form of a triangle, which may be seen 5 or 6 miles off in a dark night. Those lights bear westward of *Alderney* about 7 miles, of *Cape La Hague* 6 leagues, and from *Guernsey* 5 leagues N. by E. $\frac{1}{2}$ E. A ship may pass between the *Caskets* and *Ortach*, keeping nearest to *Ortach*; this channel is good, but in case of a calm, the variety of tides makes it hazardous; for between the *Caskets* and *Guernsey*, the tides run very strong, and make the whole round of the compass in 12 hours.

In running along the French coast from the *Caskets* to *Cape La Hague*, you must haul out from the *Caskets* N. E. by N. 3 or 4 leagues, in order to avoid the Rocks that lie to the westward of *Alderney*, and then steer again East for the Cape.

SECT. II. *Isle of Guernsey—Its Rocks, Channels, Roads, &c.*

The *Isle of GUERNSEY* lies to the South, westward of *Alderney*, above 5 leagues, and near the same distance from the *Caskets* S. S. W. $\frac{1}{2}$ W. It is high land on the southern side, which lowers gradually towards the North. It is encompassed with Rocks almost on every side; the most remarkable clusters are, to the westward the *Hanovaux*; to the northward the *Brayes*, with many others, and to the eastward the

the Isles of *Hern*, *Jethou*, *Sark*, &c. surrounded themselves with numberless Rocks.—The town of *St. Peter* stands on the eastern coast, and has a Port between two stone piers 35 feet high, forming an entrance 100 feet wide at the top, and 68 at the surface of the sea.

The sea rises here at spring tides, to 28 and 30 feet, and not to above 12 or 14 at neap tides; it flows, at full and change, East and West. or 6 h. The Roads are on the eastern side, and there are two Channels to come from the westward into them, called the *Little* and the *Great Ruffel*.

1° The Little Ruffel.

This Channel, called also the *LITTLE RUAV*, lies between the Isles of *Guernsey* and *Herm*. In coming in from the North, or from the West, you must stand away to the East, as if in quest of the *Amphroques*, observing not to come nearer than a mile to the *Brayes* which lie at the N. E. point of *Guernsey*; and when you open *St. Martin's*, or the S. E. point of the Island, a sail's breadth westward of *Brehon*, (a Rock with a stone pyramid, 20 feet high, between *Arm* and *Guernsey*) you are well prepared for entering the *Little Ruffel*.—N. B. you must not approach too near the Rocks called *les Angloises*, or *Flabougeres*, which lie S. E. of the *Brayes*; and, to avoid falling on them, you must keep the *Town Church* open to the east side of *Wall Castle*.

But if you come from the *Race of Alderney*, you are not to approach the *Amphroques* nearer than $\frac{1}{2}$ a league, keeping the Church of *Catel* open a sail's breadth to the N. W. of *Wall Castle*; by this means you may avoid the *Plattebouée*, a Sunken Rock to the N. W. of the *Great Amphroque*: Continuing that course till you have *St. Martin's Point* open a sail's breadth Westward of *Brehon*, you may boldly run in to the *Little Ruffel*, till you are passed beyond a Round Rock a little above water, called *la Rouffe*, by which, to avoid *Rouffel*, you steer pretty close, leaving it on your larboard hand. After this, keeping *Longue Pierre* (Long Stone) open a great sail's breadth with the S. W. of *la Rouffe*, and keeping also *St. Martin's Point* open a sail's breadth with the western foot of *Brehon*, you avoid the Rocks of the *Grune au Rouge*, which lie under water, and are but seldom seen. Steering this course you will have brought *Brehon* with *Crewichon* S. E. and N. W. then you are past the dangers of the *Grune au Rouge*, and may run for the Piers of *Guernsey*, observing however, to keep the end of the south Pier in a line with Captain *John Tupet's* House, in order to avoid the Rocks called the *Refées* and *Buoys Agenor*.

N. B. The *LONGUE PIERRE* is a Rock always above water, whose E. S. E. Point appears like a sail; it lies 2 miles E. N. E. from *la Rouffe*.—*ROUSSEL* is the most dangerous Rock in the *Little Ruffel*; it

lies 500 yards W. N. W. from *Rouffe*, and is never seen but at half ebb. About 100 yards to the N. E. of *Rouffel*, there is a Sunken Rock, which you must avoid very carefully, and therefore you ought never to come nearer than that distance to *Rouffel*.

When you are entered into the *Little Russel*, between *la Rouffe* and *Rouffel*, and a contrary wind obliges you to luff in order to gain the Road, if you bear West you must not bring *Brehonnet* on St. *Martin's Point*; for, in such a case, you would run upon *Rouffel*; and if your course lies Eastward, you must not bring *Brehon* on St. *Martin's Point*, which would carry you on the *Grenettes*, or *Genettes* (Rocks under water, between *la Rouffe* and *Brehon*).; but you must always keep St. *Martin's Point* open with, or clear of the West of *Brehon*, a sail's breadth.

In the *LITTLE RUSSEL* you have 5 or 6 fathoms at low water, neap tides: it ought to be observed, that the flood never begins to run in this Channel (as well as in the *Great Russel*) till the sea is at half its height, nor the ebb begins its retreat till the sea is half fallen.

2° *The Great Russel.*

The *GREAT RUSSEL* lies between the Isles of *Herm*. This Channel is convenient for ships of all sorts, and much less embarrassed than the *Little Russel*.

When you come from the Northward, or from the *Race of Alderney*, your course is S. W. till you arrive at the entrance of the Channel. There you see to the East of the Isle of *Herm*, a stone named *NOIRE PUTE*, (*Black Whore*) at the distance of a large quarter of a league; you leave it on the starboard side, and may approach it within 500 yards. When you are past this Rock, you must bring St. *Mary's Point* on the *Goubiniere*, another Rock which lies S. S. W. of *Jethou*, $\frac{1}{2}$ a mile off. By this means you avoid all the dangers near the isle of *Herm* and *Jethou*.

Once beyond *Goubiniere*, continue the same course S. S. W. till you have brought St. *Martin's Church* on the middle of the Bay of *Formain*; then you may steer towards the Port of *Guernsey*, till *Brehon* stands North Easterly, or till you have got the *Little Guard House*, (which stands at the end of the South Pier) open to the S. E. of *Cornet Castle*; when this is done you are sure of having avoided the two Sunken Rocks, called *les Têtes d'aval*, (the *Lower Heads*) and may boldly enter the Road.

You may likewise, instead of the above course, steer along by the Isle of *SARK*, at the distance of 600 yards. You meet with no dangers but such as are above water and never covered, even at the Equinoxes, except a Sunken Rock, called the *Girvaude*; but you must steer almost close to the Western Point of *BRECQHOV*, (or
L'Isle

L'Isle aux Marchands) to meet with this Rock, so that it is not at all dangerous. You may tack about, and alter the course for near half a league, between the *Isle of Serk* and the dangers before described, which lie between *Herm* and *Jetbou*.

3° Coming by the South Side of Guernsey.

When you are to the N. W. of *Guernsey*, and intend to pass by the South side of the island, you must not come to near the western part, for fear of several Rocks that lie wide of it: By bringing the house on the *Isle of Lihou* in one with the Guard House on *Pleinmont*, you avoid the *Grunes* and the *Sambule*, two Sunken Rocks, the most dangerous in this passage; you leave them on your larboard hand, and steer towards the *Hanovaux*, (*Hanways*.) These are a long chain of rocks always above water, half a league from land, and no passage between; you pass three miles wide of them, leaving them also on your larboard side.

When a-breast of these Rocks, steer S. E. till you have brought the Windmill on *Sark*, a great sail's breadth open of the South point of *Guernsey*; proceed in that direction, approaching *St. Martin's Point* at the distance of less than a mile, till *Wall Church* is in one with *Cornet Castle*, (which church is above a league to the North westward of the Castle) but large vessels must open it to the eastward of the Castle; though either way in you have nothing to fear from the *Longue Pierre*, which is a Rock near *St. Martin's Point*, and arrive safe in the Road.

You may anchor along the South side of *Guernsey* in 30 and 35 fathoms water, good ground, two miles from the land; nearer, the ground is not so good, except nigh *St. Martin's Point*, where you may anchor within a mile. At the eastern part of *St. Martin's Point* are some Rocks which are not to be trusted; however as they lie very near the land there is no danger.

When you sail to the South side of *Guernsey*, and the sea begins to rise, the flood runs along the shore to *St. Martin's Point*, near *Longue Pierre*, and there it begins to set to the northward till four hours after. Therefore care must be taken that this first flood should not carry you into the *Great Ruffel*, which may happen in a calm.

4° *The Great and Little Roads.*

The GREAT ROAD extends from *St. Martin's Point*, as far as one mile S. S. W. of *Brehon*. It affords 25, 20, 18, 16, and down to 10 $\frac{1}{2}$ fathoms water, very good bottom, half a mile from *Cornet Castle*, observing only to have the *Town Church* open to the North of the said Castle.

N. B. If you open the *South Pier Head* with *Cornet Castle*, and bring *St. Martin's Point*, S. W. you anchor in the N. E. part in 11 fathoms, good ground. About a mile, or a mile and $\frac{1}{2}$ from *St. Martin's Point*, you may stop tide in 30 or 35 fathoms, clean bottom.

It must be observed likewise, that to the South of the Road, lies a Shoal called the GREAT BANK, on which there are but 3 fathoms water; but this happens only twice in the year, in *March* and *September*. This Bank lies right off *Formain Bay*, a mile from the shore, and is about a mile in length, stretching N. by E. and S. by W.

S E C T. III. *Isle of Jersey, &c.*

JERSEY is 3 leagues and a half in length from East to West, and above 2 leagues in breadth. Its N. W. point lies S. E. by S. from *St. Martin's Point* in *Guernsey*, about 5 or 6 leagues; its S. W. point 11 leagues N. from *St. Malo*, and its distance from the coast of *Normandy*, is 4 leagues at most, and with a good wind, you pass from one to the other in two hours. This Island, like *Guernsey*, is surrounded with Rocks, which render the access both difficult and dangerous.

ST. HELIER is the principal town in *Jersey*; it is situated in the Bay ST. AUBIN, almost in the middle of the southern side; and has the best Road in the whole island, but yet dangerous on account of the numerous Rocks scattered round the entrance. The town and Bay are defended by several batteries, but chiefly by *Castle Elizabeth*, built in the Bay, on a large Rock, to which you may go at low water quite dry. With northerly winds you may anchor about a league without this Bay in 15 and 20 fathoms water, clear of any danger from the Rocks,

The

The West side of *Jersey* forms another large Bay, called *St. OWEN'S BAY*, wherein large vessels may anchor in 12 and 15 fathoms water, sheltered from westerly winds. Westward of this Bay about 1 league and $\frac{1}{2}$, is a Bank called the *Great Bank*, extending 4 or 5 miles N. W. and S. E. where you may cast anchor in 12 fathoms.

On the eastern part is the *BAY ST. CATHERINE*, where the anchorage and the hold are good. *St. Clement's Point*, (the S. E. point of the island) is to the South of this Road, and must not be approached nearer than a large league, because of a Ledge of Rocks called *Banc de Violet*, which runs from it towards the S. E.

The tides set very strong through the Rocks, and run, as we have already observed in speaking of the other Islands, the whole circuit of the compass in 12 hours. A N. by E. and S. by W. moon makes the highest tides about these places.

The two most remarkable Ledges of Rocks, on the North side of *Jersey*, are the *PATER NOSTERS*, and the *ECREHO ROCKS*; the first lie about 5 miles off the N. W. point, and stretch above a league East and West. The others are 6 miles from the N. E. point, extending E. S. E. and N. N. W. between 2 and 3 leagues. Both the Ledges consist of a multitude of Rocks between, several of which are above water.

To the South of *Jersey*, between 3 and 4 leagues S. $\frac{1}{2}$ W. from *St. Clement's Point*, and about 5 N. by E. from *Cape Frehel* in *Britanny*, are the *MINQUIERS*, a chain of Rocks 3 full leagues in length E. N. E. and W. N. W. and above a league in breadth. They are very dangerous, for the waves drive right across them as you come from the West. The greatest part of these rocks are under water; those which shew themselves, are called *Les Maisons*. The westernmost of the *Minquiers*, called *la Derée*, are always above water, and appear detached from the rest.

C H A P. XIV.

*Continuation of the French Coast, from Cape La Hague to Ushant.*S E C T. I. *From Cape La Hague to Granville—Cancalle—Mount St. Michael's Bay, &c.*

FROM *Cape La Hague* to *Cape Carteret*, the coast is very safe, and runs S. $\frac{1}{2}$ E. 7 leagues and $\frac{1}{2}$. A large league to the South of *Cape La Hague*, is a very good Road called *Ance de Vauville*, where you may anchor in 8 or 9 fathoms water, sheltered from the N. E. East, and S. E. winds.

From *Cape Carteret* to *St. Germain*, the coast bends to the S. E. above 4 leagues, and from thence to *Granville* it stretches due South 8 leagues. Two leagues S. S. E. of *Cape Carteret*, lies another good Road, called *PORTBAIL*, which affords a shelter from the N. E. and S. E. winds in 15 or 16 fathoms water.

Between this part of the coast and *Jersey* are many rocks above or under water, among which, the tides, being very strong and their run very irregular, render the navigation dangerous.

GRANVILLE, 12 leagues S. S. E. from *Cape Carteret*, stands upon the top of a steep and rugged Rock almost surrounded by the sea. The Harbour lies E. N. E. and W. S. W. at the foot of the Rock, on the South side; it is formed by a jetty built of loose stones, near 180 yards in length. There is no Road at *Granville*; but ships generally anchor at *Cape Libou*, on the West end of the Rock, where the ground is good; and about 3 leagues to the S. W. of *Granville*, lies the ROAD OF CANCELLE, which is a very good one;

as also that of CHAUSEY, (little rocky islands, 3 leagues W. N. W. of *Granville*) which though not so convenient, affords shelter to ships in bad weather.

Between *Granville* and the *Road of Cancele*, lies the deep Bight, called MOUNT ST. MICHAEL'S BAY. About one league East of the point of *Cancele*, are 3 large Rocks under which you may cast anchor in 8 or 10 fathoms water; and to the N. E. of the town lie two other Rocks, within which there is anchorage in 5 or 6 fathoms. When you come from the sea to *Cancele*, you pass between the three first Rocks and the Point, and have in that Channel no less than 8 and 9 fathoms water.

From the Point of *Cancele*, the coast bends to the S. W. about 3 leagues, making several points with Ledges of Rocks above and under water.

SECT. II. St. Malo.

The CITY OF ST. MALO, stands in the middle of the sea upon a rocky island, which is now joined with the continent by means of a causeway. The Harbour is one of the best in the kingdom; but it is of difficult access, on account of the Rocks which lie round it, and almost bar the entrance; there are however four Channels through which it may be entered with the help of the following directions:

1° The first and easternmost Channel, called LA CONCHÉE, is remarkable by a high white Rock, to the eastward of the *Ile Sezembre*, a little island about 3 miles to the N. W. of St. Malo, and which you leave on the starboard side; you steer above the corner of the town that is nearest to the *Grand Bé*, a little fortified island, very near St. Malo, to the N. W. of it. When you find yourself within half a mile of the town, you steer S. W. turning about by the *Grand Bé* and the *Little Bé*, another little island close to it on the west side, to come to an anchor in *Rance Road*.

2° The second Channel is called LA PETITE PORTE, (the *Little Gate*) it lies to the S. W. of *Sezembre*. To enter this passage, you bring the S. W. end of *Sezembre* a mile S. S. E. of you, and then you steer South, leaving that island on your starboard side. When a breast of the end of *Sezembre*, you see a little Beacon on a Sunken Rock, which you leave on the starboard hand. As soon as you are past this Beacon, steer by the *Little Bé*, till a little Tower, which stands on the S. W. point of the town, is brought in one with St. Servand's Steeple, keeping that mark on till you come to anchor under the town in 6 or 7 fathoms water.

3° The

3° The third Channel, called LA GRANDE PORTE, or the *Great Gate*, lies also to the S. W. of *Sexembre*. When you come from the West, to enter through this passage, you must steer for *Sexembre*, leaving it a little to the North till you meet with the following marks, which you take with you a mile before you, are at *Sexembre*, on account of the Rocks that lie off that island, viz. to bring a huge black Rock on the *Steeple of Paramé*, (a village two miles eastward of St. *Malo*.) You steer by this mark, which is about E. $\frac{1}{4}$ N. till you are within the Beacon; you leave it on your larboard, and run for the anchorage in the *Little Gate Channel*.

4° The fourth Channel, or PASSAGE DES DECOLLES, lies along the coast, and is frequented only by small vessels.

S E C T. III. Cape Frehel—Road of La Frenaye—Bréhat—Rockdover—*Tides in the Bight between Jersey and Guernsey, and the Main Land.*

From St. *Malo* to CAPE FREHEL, the course is W. N. W. 4 leagues, the coast forming several creeks, before which you may anchor if necessary. The cape is a very high and steep land, on which stands a Light House. Within this Cape, about a league E. by S. is another, called *Point La Latte*, beyond which lies the ROAD OF LA-FRENEYE. When you come from *Cape Frehel* into this Bay, you must range along the coast, leaving it 2 cables length on your starboard hand, till you are within the Castle of *La Latte*, and have its Bridge quite open, when the Castle will bear N. N. W. This Road is very good, and you anchor in 8 or 9 fathoms water, coarse gravel.

From *Cape Frehel*, to the North end of BREHAT, an island about a league in length, and near the shore, the course is W. N. W. above 8 leagues: but you must go more to the North, because of the Rocks called *Les Bouillons*, and *Le Lejon*, generally under water, which lie about half way in the direct Channel. The isle of *Brébat* has a pretty good Harbour; but all such as are unacquainted with the place must not think of going thither. Off the North point of the island are several Rocks under water, which stretch a good league in the sea; and at 1 league and $\frac{1}{2}$ N. E. lies a dangerous one called *la Horaine*. The high Rocks called *Roquedouvre*, or ROCKDOVER lie 7 leagues S. S. W. of *Guernsey*, and 4 leagues and $\frac{1}{2}$ North of *Brébat*; they are almost above water. Two leagues and $\frac{1}{2}$ to the S. E. of them, are those called *Barnoui* and *Gautier*, which are also commonly above water; and about half way between *Brébat* and *Rockdover*, lies the danger called *Rocarbel*, which is never seen; you may pass over it at high water, but never at low tide.

The tides are East and West on all that coast as far as *Granville*. Above *Granville*, between the coast and the islands of *Jersey* and *Guernsey*, they are E. N. E. and W. S. W. Their perpendicular rise, at the new and full moon, is 36 feet between *Guernsey* and the shore; 40 between *Jersey* and *Granville*; 45 at *St. Malo* and *Cape Frebel*; 40 at *Brébat*; and then to the N. W. in the *Offing*, 35. The sea between *Granville* and *Cancalle* rises very quick; and in the Bight of *St. Michael's Mount*, if a man should happen to be a mile from the shore, when the flood is coming 5 miles off, it will be impossible for him to escape.

SECT. IV. *Isle de Bas—Roscou—Morlaix—Dangers along the Coast and in the Offing—Roche Blanche, &c.*

From *Brébat* to the *Isle de Bas*, the distance is about 15 leagues to the westward: all this part of the coast is full of little Islands and Rocks above or under water, that stretch 2 leagues into the sea, and render the navigation hazardous.

The SEVEN ISLES, (with the Bank of *Triagons*, called in our old Charts, the *Treacle Pots*, whose Rocks are partly above, and partly under water) are the most remarkable; and there is a Channel betwixt them and the shore. Off the *Seven Isles* the coast is known by a high spire Steeple, and off the *Triagons* by a high Tower. When you come by night, or in winter from *Ushant* to *St. Malo*, you must not steer more towards the East than E. N. E. or N. E. $\frac{1}{4}$ E. till you have the *Triagons* on your starboard, for the current sets strong to the S. E. upon that rocky bank and the *Seven Isles*. But by day, and in clear weather, there is no risk in coasting very near the land, because you see every thing.

N. B. About one league N. W. of the *Triagons*, lies a Sunken Edge, called *la Feuillée*.

The ISLE DE BAS, about 3 miles in length from East to West, and one mile in breadth, is separated from the land by a narrow Channel, at the eastern end of which lies Roscou, or ROSCOF, a small Harbour, which some years ago was made, by the French Government, a kind of free port for the exportation of rum from their colonies, which is here deposited and sold to our smugglers. You may enter that Harbour by the two ends of the Channel; but the shore of the island is encumbered with a multitude of Rocks above or under water, which render the passage difficult.

To enter on the East side, after you have passed the high Rock with two horns, called LE TAUREAU, or LA SELLE, (the Bull, or the

Q

Saddle)

Saddle) you must stand towards the shore, between the point of the main land, and steer through the middle of the Channel, where you have 7 or 8 fathoms, at high water. There is no passing at all at low water on account of the numberless Rocks; and even at high tide it is prudent to take a Pilot.

The West Passage is less difficult; when you attempt it, you approach the end of the island within cannon shot, where you perceive a single Rock, called *la Lavandiere*, (the *Laundress*) which stands in about one-third of the distance between that end and the main. Steer close by it, and push it with a long oar, for it is very safe. Two ships lengths from *la Lavandiere*, is another Rock under water called *le Couillon*, (the *Testicle*). You pass between the two, leaving the first on your starboard and the *Couillon* on your larboard, hand. When you are got within those Rocks, you approach a little off the island, taking care in the mean time of two dangers under water that are near the shore, and for which reason dangers are easily discerned, the waters being extremely clear in this place. When you are about the middle of the island, you see a great cove with several houses on it, over which you may anchor in 4 fathoms at low water.

St. Pol de Leon, a small Harbour, lies $\frac{1}{2}$ a league to the South of the entrance of the river *Morlaix*. To the Eastward, about 4 leagues S. S. E. of *Roscou*, stands the town of *MORLAIX* one of the principal Harbours of *Brittany*. To sail into it, when you have brought the *Bull* or *Saddle* above mentioned to bear West, about 3 miles, steer for the northernmost point of land on the East of the entrance of the Bay bearing S. E. by E. nearly, till you come within a mile of the rocks which lie off that point. Then steer S. by W. for the small island lying off the point on the east side of the River's entrance. You must leave all the Rocks with Beacons on the larboard, and the *Reguel Islands*, with *Women's Island*, on the Starboard side. From the small Island off the Eastern Point, you may proceed up till you are above the Point on the other side of the river, and anchor in 6 or 7 fathoms water.

Five leagues to the North and N. $\frac{1}{4}$ E. of the *Isle de Bas*, and 30 leagues S. W. by W. from the *Caskets*, lies a Rock under water, called *ROCHE BLANCHE* (the *White Rock*). The *Dutch Pilot* tells us, That at low water the top of this Rock appears, and is on a level with the water: "But the fishermen of the *Isle de Bas*, says *Dubocage*, have assured me of the contrary, and that there is always depth enough over it for all sorts of large vessels; though in boisterous weather, the sea breaks with more violence here than in other places."

SECT. V. *Isle of Ouessant, or Ushant, &c.— Tides along the Coast.*

From the *Isle de Bas* to *Ushant*, the course is W. by S. about 15 leagues. The shore between is much indented, and bordered with Rocks, some of which stretch above 3 miles into the sea. Three leagues S. W. by W. from the *Isle de Bas*, is the ANCE DE GOULVEN, a large sandy Bay, and 4 leagues further down, another, called ABREVERAK, which is very good, but extremely difficult to enter. About a league to the westward of *Abreverak*, lie the Rocks OF PORSAL, near two miles from the shore, the greatest part of which is always under water: There is also good anchorage among them, but the going in is very hazardous. From the *Porsal Rocks*, to that called *the Four (the Oven)*, the coast runs W. S. W. about 4 leagues; the shore is of a moderate height, but encumbered with a multitude of dangers, at least 2 miles wide, therefore you ought not in the night approach the land nearer than 40 or 50 fathoms water; the bottom along this shore is a grey sand, with small pebbles like little nuts, of various colours.

THE FOUR lies on the westernmost point of *Britanny* a mile from the shore; it is a huge black rock, always above water, and shaped like an oven, whence it takes its name. This Rock is distant from *Ushant* about 4 leagues, E. N. E. and W. S. W.

OUESSANT, or USHANT, is a steep and craggy island almost all round, near 5 miles long N. E. and S. W. and 2 miles $\frac{1}{2}$ broad: It has a harbour on the S. W. side, whose entrance is known only to the inhabitants; the rest of the island is surrounded with rocks, except on the north part, where there is also an anchorage. On the southernmost point stands an octagon Tower and Light-house, which was built by *Marshal de Vauban*.

N. B. A league to the N. W. of *Ushant*, there lie some Rocks called BASSE CALAIS, of which you must be careful.

A West $\frac{1}{4}$ South and East $\frac{1}{4}$ North moon, makes high water at the *Isle de Bas*, *Morlaix*, *St. Pol de Leon*, and *Ushant*; but in the Offing, and athwart of the rivers, a S. W. by W. and W. S. W. moon makes high tides. A little off the land the flood sets E. N. E. and the ebb W. S. W. along the shore, and continues the same course from the *Isle de Bas* to *Ushant*. In the *Passage du Four*, between *Ushant* and the Main, the flood runs to the North, and the ebb to the South. The perpendicular rise, from the *Isle de Bas* to *Abreverak* is 25, at *Porsal Rocks* 28, and at *Ushant* 20 feet.

*A TABLE of the Courses and Distances in the Channel
along the French Coast.*

Names of Places.	By Compass, in 1786.	Corrected Courses.	Dist. in Leag.
From Calais to <i>Dunkirk</i>	E. by S.	E. by N.	7
—Cape Grisnez - -	W. by S.	S. W. by W.	4
Cape Grisnez to <i>Boulogne</i> - - -	S. S. W.	S.	2
Boulogne to <i>Dieppe</i>	S. W.	S. S. W.	17
Dieppe to <i>Cape d'Antiber</i>	W.	W. S. W.	12
Cape d'Antiber to <i>Cape La Heve</i> - - -	S. W.	S. S. W.	4
—Cape Barfleur -	W. N. W.	W. nearly	18
Cape La Heve to <i>Cape Barfleur</i> - - -	N. W. by W.	W. by N.	17½
Cape Barfleur to <i>La Hougue</i> - - -	S. S. W.	S.	3
—the <i>Granville Rock</i>	E. N. E.	N. E.	2
— <i>Dieppe</i> - - -	N. N. E. ¾ E.	N. ¾ E.	31
—Cape La Hague -	N. N. W. ½ W.	N. ½ W.	9½
Cape La Hague to <i>Alderney</i> - - -	W. N. W.	W.	3
Alderney to the <i>Caskets</i>	W. N. W.	W.	2½
— <i>Guernsey</i> - - -	W. S. W.	S. W.	5
The <i>Caskets</i> to <i>Guernsey</i>	S. W. ¾ W.	S. S. W. ½ W.	5
— <i>Foche Blanche</i> -	W. by S.	S. W. by W.	30
<i>Guernsey</i> to <i>Jersey</i> -	S. by E.	S. E. by S.	6
— <i>Rockdower</i>	S. W.	S. S. W.	7
<i>Jersey</i> to <i>Cape Carteret</i>	E. N. E.	N. E.	4
—the <i>Minguiers</i> -	S. S. W. ¼ W.	S. ½ W.	3½
— <i>Granville</i> - -	S. S. E.	S. E.	10
— <i>St. Malo</i> - - -	S. S. W.	S.	11
<i>St. Malo</i> to <i>Cape Fréhel</i>	N. W.	W. N. W.	4
Cape <i>Fréhel</i> to <i>Bréhat</i> (without) - - -	N. W.	W. N. W.	8
<i>Bréhat</i> to <i>Rockdower</i> -	N. N. E.	N.	4½
— <i>Ile de Bas</i>	Westerly	Westerly	15
<i>Ile de Bas</i> to <i>Rock Blanche</i> - - -	About N. N. E.	N. ¼ E.	5
—to <i>Uplant</i> - -	W. by N.	W. by S.	15

A TABLE

A TABLE of the Thwart Courses and Distances in the Channel, between the English and French Coasts.

Names of Places.	By compass, in 1786.	Corrected Courses.	Dist. in Leag.
From Dover to Calais	S. E.	E. S. E.	7
—Boulogne - - -	S. E. by S.	S. E. by E.	9
—Dieppe - - -	S. S. W. $\frac{1}{2}$ W.	S. $\frac{1}{2}$ W.	24
—Havre, (Cape La Heve) - - -	S. W. by W. $\frac{1}{2}$ W.	S. W. by S. $\frac{1}{2}$ S.	36
Dungeness to the Caskets	W. $\frac{1}{4}$ S.	W. S. W. $\frac{1}{2}$ S.	50
Beachy Head to Dieppe	S. by E.	S. E. by S.	22
—Havre, (Cape La Heve) - - -	S. S. W. $\frac{1}{2}$ W.	S. $\frac{1}{2}$ W.	26
Cherbourg - - -	W. S. W.	S. W.	34
—The Caskets - - -	W. by S. nearly	W. S. $\frac{1}{4}$ S.	40
St. Helen's to Havre, (Cape La Heve)	S. by E.	S. E. by S. nearly	28 $\frac{1}{2}$
Dunnole to Calais -	E by S.	E. by N. nearly	40
—Cherbourg - - -	S. W. by S.	S. by W.	20
—The Caskets - - -	W. S. W. $\frac{1}{2}$ S.	S. W. $\frac{1}{2}$ S.	22
—Ushant - - -	W. S. W. $\frac{1}{4}$ W.	S. W. $\frac{1}{2}$ W.	64
Portland Bill, (the Pitch) to Cape Barfleur -	S. S. E. $\frac{1}{3}$ E.	S. E. $\frac{1}{2}$ E.	23 $\frac{1}{2}$
—The Caskets - - -	S. by W.	S. by E.	14 $\frac{1}{2}$
—Ushant - - -	S. W. by W. $\frac{1}{3}$ W.	S. W. $\frac{1}{2}$ S.	50 $\frac{1}{2}$
—Havre, Cape La Heve - - -	S. E. $\frac{1}{3}$ S.	E. S. E. $\frac{1}{2}$ S.	40
The Start to Ushant -	S. W. $\frac{3}{4}$ W.	S. S. W. $\frac{1}{2}$ W.	38
—The Caskets - - -	S. E. $\frac{1}{2}$ S.	S. E. by E. $\frac{1}{3}$ E.	21
—Cape Barfleur - -	S. E. $\frac{1}{4}$ E.	E. S. E. $\frac{1}{2}$ E.	33
—Havre - - -	S. E. $\frac{3}{4}$ E.	E. S. E. $\frac{1}{2}$ E.	50
The Lizard to the Caskets - - -	S. E. by E. $\frac{3}{4}$ E.	E. $\frac{1}{2}$ S.	39
—Guernsey - - -	S. E. $\frac{1}{2}$ E.	E. by S. $\frac{3}{4}$ S.	36
—St. Mado, (Sextembre)	S. E. $\frac{1}{2}$ S.	E. S. E. $\frac{1}{3}$ S.	50
—Ushant - - -	S. by W.	S. by E.	29
Scilly (the Light House) to the Caskets -	S. E. by E. $\frac{1}{2}$ E.	E. $\frac{1}{3}$ S.	56
—Ushant - - -	S. by E. $\frac{1}{2}$ E.	S. E. $\frac{1}{4}$ S.	35

C H A P. XV.

*General Instructions for Ships coming into the British Channel.*S E C T. I. *Soundings off Scilly, &c.*

WHEN homeward bound, you must bring your ship to in time, and try to get soundings. The proper parallels of Latitude to keep in to steer to the eastward for THE CHOPS, or entrance of the Channel, are from 49 deg. to 49 deg. 30, or even 40 minutes. But you must by no means stand further to the northward than 49 deg. 45 minutes. Keep if possible in the parallel of 49 deg. and when you have 90 fathoms, fine sand, then you are about 66 leagues from the Lizard. But should you be in the latitude of Scilly, you will have oazey ground in 60, 75, or 80 fathoms water; in the stream of Scilly, ten leagues to the windward, you will strike but 30, 35, and 40 on Jones's Bank.—See Chap. X. at the end.

When you have struck soundings, having 95, or 90 fathoms, bear into the latitude of 49 deg. 30 min. or any where between that and 49 deg. 40 min. You will meet with the same soundings for 6 or 7 leagues, then you shoal your water 5 fathoms at once, and in that depth will run 3 or 4 leagues till you shoal again: for the ground has no regular or gradual decrease; wherefore you must have recourse to general soundings, and not to particular ones: And if, at any other depth, you find the same soundings from 90 to 64 fathoms, you have the Channel fairly open.

When in the parallel of 49 deg. 30 min. 75 fathoms water, then you must steer E. by S. Should the wind be away to the S. W.
steer

steer E. S. E. to keep your latitude, to the northward of which you must not go, if possible, till you get within *Scilly*, nor even then, except you have an opportunity of making the *Lizard*.

You may know with certainty when you are to the northward, or to the southward of *Scilly*, by the ground. When to the northward, or in the latitude of it, you have ooze on the lead, from 85 to 60 fathoms; then you must haul to the southward, till you meet with coarser ground, which is to be found to the southward of *Scilly*. To know when your ship is abreast of *Scilly*, you may depend on the following soundings; if not more to the southward than 49 deg. 15 min. or to the northward than 49 deg 40 min. you find 60 or 64 fathoms, then be certain that you are the length of *Scilly*. When you meet in 64 fathoms with sand interspersed with black specks, like beaten pepper, or have on your lead little black stones which you find no where else in the Channel, then *Scilly* bears N. E. by N. 14 leagues; and if at any other depth, the same soundings are found from 90 to 64 fathoms, you have the Channel fairly open. When you have brown sand mixed with hakes teeth, in 65 fathoms or thereabouts, you are likewise in a fair way of the mouth of the Channel; but if the soundings from 85 to 70 fathoms, are brown coarse sand mixed with large shells, you are in the stream of *Ushant*.

In the night time or thick weather, come no nearer *Scilly* than 60 fathoms, or 55; for in this last sounding you are within 3 leagues of the Rocks. In clear weather you will descry *Scilly*, bearing North, 6 or 7 leagues off, and have 600 fathoms water, grey sand with broken shells: You may see it also in 55 fathoms, stony ground with some red shells.

To know with certainty when you are got into the Channel, and within *Scilly*, if you stand to the southward, you will deepen your water; if to the northward you will shoal it.

SECT. II. *Soundings, &c. off Ushant.*

If at any time you be in the latitude of *Ushant*, or more to the southward, and find from 95 to 75 fathoms, you will have on your lead reddish sand and gravel mixed with broken shells, whereas in the Channel there are no such soundings. In the same latitude, and 86 fathoms, you are about 36 leagues off; and in 70 fathoms, only 11 leagues: Come no nearer than 55, for in that depth you are not above 3 leagues from the Rocks. In the night, or thick weather, it will be prudent not to come nearer to it than 63 fathoms.

Ushant S. S. E. from you, 18 or 20 leagues, you will have from 62 to 65 fathoms, small white, yellow, red and black stones, mixed with bits of red shells, and some awl points: 15 or 16 leagues off, the

the soundings are from 58 to 60 fathoms, grey and white sand, mixed with little red and white pebbles, and some bits of rotten shells like rinds of cheese.

Ushant S. E. distant 15 or 16 leagues, you will have 70 fathoms, red sand with bits of red and white shells: 18 or 20 leagues off the same depth, white and grey sand, with little yellow and white mottes, and some awl points.

Ushant E. S. E. distant 5 leagues, you will have 65 fathoms, grey sand, with small flat stones, awl points and little shells. At 124 leagues distance 70 fathoms, fine white and grey sand with a few fine shells and awl points. At 55 leagues, on the Bank which lies at the mouth of the Channel, 60 fathoms, fine yellow and white sand, speckled with black: on each side the Bank you have 80 fathoms, white and grey sand, intermixed with small yellow chaff.

Ushant East of you 6 leagues, you will have 65 fathoms, sand mixed with rotten shells; at 5 and 6 leagues distance, from 60 to 64 fathoms, pebbles and rotten shells, and some awl points. At 24 leagues 85 fathoms, rough ground, long, red and yellow sand, with small points and bits of shells. At 35 leagues distance, 90 fathoms, coarse grey sand with pieces of large shells, and small little and grey pebbles.

" I shall recommend this general rule, says Mr. *Nichelson*, viz. that
 " to the southward of the proper parallel, toward *Ushant*, and on
 " the coast of *France* the water is deeper, and the soundings coarser
 " than on the *English* coast, being mostly gravel with pebble stones;
 " if any sand, it will be coarse; whereas on the *English* coast towards
 " *Scilly*, 20 leagues to the westward, 9 or 10 leagues to the southward,
 " and 15 leagues to the eastward of it, the soundings are white, grey,
 " or brown sand, sometimes mixed with broken shells, and hakes
 " teeth. In the proper parallels of latitude, or from 49 deg. 20 min.
 " to 49 deg. 30 min. N. your soundings will in general be fine white,
 " or grey sand, sometimes brown sand."

S E C T. III. *Coming up the Channel.*

If once you are certain of being in the Channel, and want to make the land before night, haul in N. N. E. or more northerly, and you will soon make it, if abreast the *Lizard*, which as well as the Land's End, and all the land up the Channel, may be seen 8 or 9 leagues off.

It ought to be a general rule, for all ships coming into the Channel, to make the land about the *Lizard*, it being, as we have already observed, the properest place for a land-fall; and if thick or bad weather comes on, they know where they are, and what course to steer.

Ships that have neglected making the *Lizard*, and ran up the Channel a great way without seeing the land, have often, meeting with hazy or bad weather, been exposed to great danger: unable then to make the land, or to know how far they had got up, they sometimes have not been sure of the side of the Channel they were upon, and have steered a course, to avoid the dangers on the English Coast, which ran them a-shore on the coast of *France*. In making the *Lizard* you have a short departure, which in navigation is certainly the best, and becomes absolutely necessary in narrow seas like the *British Channel*.

Lights being placed on the *Lizard*, a ship may with great safety, make it in the night as well as in the day; the Light-houses standing so high, that they are seen at a great distance, and the *Lizard Point*, being a bold land and steep to. The *Lizard* bearing from N. by W. to N. by E. distance 3 leagues, you will have 45 fathoms water, coarse gravel, stones, and shells, with pieces of slate. The *Lizard* bearing North, distance 2 leagues, you will have 45 fathoms, pebbles, stones, and scollop shells; which shews there is no danger in running for this land, night or day.

From the *Lizard* you direct your course up the Channel. Between the *Lizard* and the *Start* you will have soundings in the fair way, from 45 to 42 fathoms; keep without the stream of 40 fathoms, then you need not fear any danger from the *Eddystone*, you will have 39 fathoms water in passing by the *Eddystone*, within 3 miles of it, when it bears N. by W.—North and N. by E. the same distance.—From the *Start* to the *Isle of Wight*, your soundings in the fair way will be from 35, a little to the eastward of the *Start*, to 32 fathoms, *Portland* bearing North 4 leagues. Between *Portland*, *Peverel Point*, and the *Needles*, you find from 28 to 30 fathoms, in the fair way, or 4 or 5 leagues off shore: if you keep without 28 fathoms, you have nothing to fear from the indraught of the Channel of the *Needles*. You may sail by the *Isle of Wight* in 25, 27, and 36 fathoms, distant from it between 3 and 5 leagues. Between the *Isle of Wight* and *Beachy Head*, you will have soundings in the FAIR WAY, from 30 to 22 fathoms; keeping without 20, there is nothing to apprehend from the *Owers*; but stand no nearer to them than 18 fathoms night or day. Off *Beachy*, as well as between that *Head* and *Fairleigh*, your soundings will be 21 and 22 fathoms, 4 or 5 leagues off, and from 30 to 35 fathoms, 6 or 7 leagues from the shore.

In general, during the night, or in thick weather.

	come no nearer	{	<i>Scilly</i> , than - - - -	55	}	fathoms.
			<i>The Lizard</i> , than - - -	45		
Between	{		<i>The Lizard</i> and the <i>Start</i> , than - - -	40	}	fathoms.
			<i>The Start</i> and <i>Portland</i> , than 20 or - -	21		
			<i>Portland</i> and the <i>Isle of Wight</i> than - -	30		
			<i>Isle of Wight</i> and <i>Beachy Head</i> , than 20 or 18			
			<i>Beachy Head</i> and <i>Dungeness</i> , than - - -	20		
			<i>Dungeness</i> and the <i>South Foreland</i> , than -	14		

If in the night time, or hazy weather, between the *Nefs* and the *South Foreland*, (as we have observed heretofore) you are steering for the *Downs*, 16 and 17 fathoms will carry you without the *South Sand Head*, 14 fathoms within it, and 15 fathoms will run you right upon it.

" From the *Start* to *Portland*, says Captain *Hayter*, come no nearer than 30 fathoms, nor further off than 35, for fear of the *Caskets*.
 " The flood always sets in on your coast, and the ebb on the *French coast*, so you must order your course, as you find wind and tide.
 " When you have made the *Start* or the land near it, and you are about 2 leagues off shore, with the wind on the southern hank, and thick weather, steer E. by S. by compass, till you come off the *Isle of Wight*, then steer East, also by compass; but don't venture to go above *Beachy Head* till you see the land, for many have been mistaken in that run. As soon as you have seen *Beachy*, if it is thick weather, and the wind westerly, but so you can keep your lead going, haul into *Rye Bay*, till you come into 10 fathoms; keep as near as you can in that depth, which is the outer edge of the Bay, and it will lead you to *Dungeness*; your course by keeping in the above depth will be about E. and sometimes E. by S. by compass; when you have run in till you tumble into 14 fathoms, for several casts, then may be sure that you are got to the eastward of *Dungeness*. You may continue the same depths of 10 fathoms by hauling in till you come into *Dover Road*. Should you be off *Dungeness* in the night, seeing the Light-house plain, and resolved for the *Downs*, then haul in and bring the said Light. S. W. by W. and steer N. E. by the compass; it will carry you directly to the *South Foreland*, when you may come into 10 fathoms water."

A T A B L E

Of the GENERAL SOUNDINGS in the CHANNEL and the CHOPS, with their respective Bearings and Distances from the Land, and the Quality of the Ground.

Names of Places.	Bearings.	Dist. in leag.	Depth of water in fath.	Quality of the ground.
Silly.	E. by N.	15	72	Pepper sand, black and yellow.
	E. by N.	7	72	Oaze, like mustard feed, with broken shells.
	E. N. E.	7	60	Some black sand.
	N. E. by E.	13	65	Branny sand, with some pieces of shells.
	N. E. by E.	10	55	White and red sand mixed with shells.
	N. E. by E.	6	48	Black sand, and some black and broken shells.
	N. E.	10	65	Branny sand, small stones and herring bones.
	N. E. by N.	14	66	Sand intermixed with black specks like beaten pepper.
	N. E. by N.	10	57	Small red sand.
	N. by E.	18	68	Red sand with black and white scollop shells.
	N.	12	65	Broken shells with red and white sand.
	N.	10	65	White sand.
	N.	7	60	Grey sand with broken shells.
	N. N. W.	33	77	Red sand with shells.
	N. W. by N.	7	54	Shells; the <i>Lizard</i> N. E. dist. about 18 leagues.
	N. W. by N.	5	64	Red and black sand with glittering shells.
	N. W.	7	60	Stony ground.
	N. W.	4	50	Branny sand, with black and broken shells.
	N. W. by W.	2½	44	Shells and sand like points of needles.
	W. by N.	13	63	Fine white sand with little oaze.
	W.	7	50	Oazy and grey sand, with little pieces like parings of cheese.

T A B L E, &c.

Names of Places.	Bearings.	Dist. in leag.	Depth of water in fath.	Quality of the Ground.
<i>The Lizard.</i>	N. E. by E.	19	58	Grey, yellow and red shelly sand, with blue fragments of shells.
	N. E. by E.	12	57	Scollop shells.
	N. E. by E.	4	44	Great stones and rough ground.
	N. E. $\frac{1}{4}$ E.	16	68	White, yellow and red small round sand, with some glittering bits like needles.
	N. E.	7	50	Ground like husks of oatmeal, and small stones.
	N. E.	6 $\frac{1}{2}$	43	Marthy shells and some scollop shells.
	N. E. by N.	10	52	Marthy shells and hakes teeth.
	N. N. E.	13	68	Grey, black and red ragged stones, with red pieces of shells.
	N. N. E.	9	50	Marthy shells like oatmeal husks.
	N. by E.	15	58	Marthy shells and hakes teeth.
	N. by E.	10	60	Yellow and red pieces of shells, and grey pieces of soft flat stones, without any sand.
	From N. by W. } to N. by E. }	3	45	Coarse gravel, stones and shells with pieces of slate.
	N.	2	45	Pebbles, stones and scollop shells.
	N.	1	39	Stones as big as beans.
	N. W.	5	45	Grey sand like oatmeal flour.
	N. W.	3	46	Marthy shells like small stones.
	W. N. W.	3 $\frac{1}{2}$	47	Small shingly stones and marthy shells.
<i>Eddystone.</i>	W. by N.	4	40	Fine marthy shells like white stones.
	W. by S.	3	41	Black gravelly ground with small stones.
	N.	$\frac{1}{8}$	35	Dirty brown sand and hakes teeth.
	W.	$\frac{2}{3}$	34	Dirty brown sand.
	S.	$\frac{1}{3}$	26	Fine sand, and within this 28 and 30 fathoms.
<i>The Start.</i>	N. by E. Northerly	8 $\frac{1}{2}$	40	} A ground like the dust of a grindstone, with shells and hakes teeth.
	N. W. by W.	4 $\frac{1}{2}$	43	
	N. W. by N.	3	38	} Gravelly sand, small stones, and shells.
	N. W.	3	35	
	N. by W. Westerly	12	38	} Sandy ground mixed with black dirt like beaten pepper.
	N. W. by W.	14	43	
				} Reddish shells mashed as if beat in a mortar, white sand and scollop shells.

TABLE,

T A B L E, &c.

Names of Places.	Bearings.	Dist. in leag.	Depth of water in fath.	Quality of the Ground,
<i>Portland.</i>	N. E. by E.	8	35	Small shingly stones as big as pease.
	N. E. by E.	$2\frac{1}{2}$	27	Shingly ground.
	N. E. by N.	11	41	Fine sand and scollop shells.
	N. N. E.	8	40	Fine sand, scollop shells and small stones.
	N. by E.	$5\frac{1}{2}$	33	Streamy ground with some black sand.
	N.	8	40	Streamy ground with small stones.
	W. N. W.	$2\frac{1}{2}$	20	Small stones.
<i>The Caskets.</i>	S. S. E.	4	38	White Shells.
	W. S. W. $\frac{1}{4}$ S.	4	68	Gravel and very fine rotten shells. — N. B. This sounding, called the <i>North Pit</i> , is about 2 leagues North of <i>Alderney</i> .
	From S. S. E. } to S. by W. }	6	45	Grey and yellow sand, with several red and black pebbles and rotten shells.
<i>The Needles.</i>	N. E. by E.	2	17	Coarse shingly ground.
	N. E. $\frac{1}{2}$ E.	$2\frac{1}{2}$	17	Small shingly ground.
	N. E.	2	13	Rocky ground.
<i>Isle of Wight.</i>	N. by W.	$3\frac{1}{2}$	20	All the ground from <i>St. Alban's</i> to the
	E. by N.	4	21	East end of the <i>Isle of Wight</i> , is chalky
	N. by E.	3	18	and broken sand.
<i>Dunnofe.</i>	W. by S.	4	16	Rough ground with some big stones.
	W.	4	21	A kind of sandy fishy ground.
	W. N. W.	8	33	} Fishy ground, somewhat red, with
	N. by W.	8	26	

From *Dunnofe* to *Beachy* and *Dungeness*, near the coast, and 5 leagues off, the ground is sand, or white marl, with a little sand. From *Dungeness* to the *South Foreland*, fine sand and oaze.

The General Soundings along the French Coast are as follow.

Between *Boulogne* and the South of River *Somme*, 3 or 4 leagues off the land, from 10 to 20 fathoms water, sandy ground.

Between *Treport* and *Cape La Heve*, 2 and 3 leagues off, from 18 to 20 fathoms, sand mixed with marl.

Between *La Heve* and *Cape Barfleur*, 20 and 28 fathoms, small, black, red and grey pebbles like small beans, with very little sand.

Between *Cape Barfleur*, and the *Straits of Dover*, in the middle of the Channel, from 25 to 34 fathoms sandy ground: about 9 leagues N. E. by N. from *Cape Barfleur*, there is a small flat, on which you have but 14 fathoms.

Between the *Capes Barfleur* and *La Hague*, 2 or 3 leagues off, from 24 to 34 fathoms, coarse gravel with rotten shells. Towards *La Hague* the ground is rocky.

Between the *Caskets* and *Cape Barfleur*, in the middle of the Channel, from 35 to 31 fathoms, rotten ground.

Between *Guernsey* and the *Caskets*, from 35 to 40 fathoms, rotten ground; but about 6 leagues, according to some, and more than 12 according to others, S. W. by W. from the *Caskets*, is a spot called the *South Pit*, wherein you have 70 80, and 90 fathoms, which are the deepest soundings in the Channel, and 20 leagues off the *Chops*,

Between the Islands of *Jersey*, *Guernsey* and *Sark*, from 25 to 30 fathoms, various ground; and within *Rockdover*, in the course to *St. Malo*, the same depth, sandy ground.

Off *Guernsey* to the *Four*, and the *Lizard*, in the middle of the Channel from 45 to 56, and 60 fathoms, generally brown sand—yellow and white sand—gravel and rotten shells—grey sand and pebbles, or shells.

Along the coast of *Britanny*; from the *Triagons* to *Ushant*, 2 or 3 leagues off, from 40 to 43 fathoms, coarse gravel, and small pebbles of various colours.

DIRECTIONS.

D I R E C T I O N S
F O R
T H E S O U T H - W E S T
A N D
W E S T C O A S T S
O F
I R E L A N D.

C H A P. XVI.

From Carnfore Point to Cape Clear.

S E C T. I. *Tusker Rock and adjacent Rocks and Shoals—Feathard—Slade Bay—Waterford Harbour—Tides.*

TH E TUSKER is a remarkable large Rock E. of the South end of *Great Saltee Island*, and 2 leagues and $\frac{1}{2}$ E. $\frac{1}{2}$ S. off *Carnfore Point*. All ships bound from the westward up *St. George's Channel*, should endeavour to see this rock, before they set their course northward.—THE BAILIES are a long narrow ridge of sand, midway between the Main and *Tusker*, with 3 fathoms water, bearing W. from *Tusker* and E. by S. from *Carnfore Point*; to avoid which on the E. side, keep nearer to *Tusker* than to the Main.—Half a mile S. W. from *Tusker* is a small

a small rocky Shoal, with 5 feet water, which is avoided by keeping a mile S. W. from *Tusker*, or within half a mile of it.—**BLACK ROCK** lies on the South coast about 4 miles W. by S. of *Carnfore Point*, and is always above water.—**THE BARRELS** are two small Rocks $\frac{1}{4}$ of a mile E. S. E. from *Black Rock*, and dry at half ebb. To avoid them on the South side, coming from the Eastward, keep *Greenore Point* in sight by *Carnfore Point*, till *Black Rock*, bears N. W. or is on *Ballyleigh Castle*, then sail W. S. W. In sailing from the Westward, keep above a mile South of *Black Rock*.—**KONINGMORE** is a rock always above water, that lies $1\frac{1}{2}$ mile S. of *Great Saltee*, and **KONINGBEG** is a Rock dry at half ebb, above a mile S. W. by S. from *Koningmore*. When *Koningmore* bears in the Middle of the Sound, between the two *Saltee* Islands, you are to the Eastward of *Koningbeg*; but when that Sound is quite shut in, you are a little to the Westward of it.—There are two Rocks called **BRANDY ROCKS**, that lie about 2 miles E. by N. from *Koningmore*, and dry at half ebb. To avoid them on the East end keep the Castle of *Ballitaig* or *Ballyleigh*, out by the N. end of *Little Saltee*: to avoid them on the W. side keep the same Castle just out, or a little shut in by the S. end of *Little Saltee*, or the N. end of *Great Saltee* N. and to get clear of them on the South side, keep *Koningmore* West or W. $\frac{1}{2}$ N.

ST. PATRICK'S BRIDGE is a narrow ridge which consists of large stones, always under water; extending in a curve from the *Little Saltee* Northward to the Main, with a depth on it, at low water, from 7 to 10 feet. Half a mile Northward from the S. W. point of *Little Saltee*, is a *small blind Rock*, with only 3 feet water.—About a cable's length S. W. of the S. W. Point of the same island lies another *small Rock* dry at half ebb. There are also *two rocky Shoals*, extending from the shore Northwards, about a quarter of a mile, on the N. E. of the *Great Saltee*, and the least water on them is 6 feet: between these, in moderate weather, vessels may stop, on clean ground. To avoid these shoals, in going between the *Saltees*, keep nearer the *Little Saltee* than the great one.—Off the entry of *Feathard Creek*, about half a mile Eastward, there is a *rocky Shoal*, on which the least water is four feet. A ledge extends from *Ingard Point* near half way the Shoal.—**THE BRIDGE OF CRACKEN** always under water, is a Shoal that extends a quarter of a mile S. E. from the Point next N. of *Slade Harbour*, which has 5 feet water; to avoid it keep the *Mountain of Fort* above *Wexford* without *Bagamhon head*.—With Westerly winds, and moderate weather, you may stop along the East side of *Little Saltee*, 2 cables length from shore, in 6 fathoms water, clear ground, but it will not hold in hard gales.—With South and S. E. winds and moderate, you may stop on the N. side of the *Great Saltee*, between the Shoals that extend Northward, when the small House seen there bears S. by E. or S. S. E. about a cable and half from the shore.

WATERFORD HARBOUR is spacious and safe, having a Light house on the Point of *Hook*, on the East side of the entrance; and after dark Two Lights more, which are put up in *Duncannon Fort*, 6 miles up the Harbour; there is a perch besides on the point of the sand near *Passage*. A ridge of sand stretches quite across the Channel about $\frac{1}{2}$ mile above *Credenhead*, which at low spring tide has 10 feet water, at high water, spring tide, 20 feet, and at high water, neap-tide, 18 feet water. The usual place to anchor is about a quarter of a mile above *Passage*, nearest the W. side in 5 or 6 fathoms water. To fall in with *Waterford Harbour*, coming from the Southward or Eastward, keep *Sleanaman Mountain*, N. E. $\frac{1}{2}$ N. or the *Great Saltee Island* S. S. E. till you see *Hook Light House*, and stand at least a cable's length or two, from the E. Point, to avoid the irregular streams of tide there.

To sail to the anchorage at *PASSAGE*; after you are past the *Hook*, take flood tide or a brisk leading wind, steering for *Creden Head*, and keeping near a cable's length or half a cable's length from it; from thence steer N. by N. for *Duncannon Fort*, keeping half a cable's length from it; after which steer N. on the church of *Ballihake*, which stands on an Eminence, till you see the Perch near *Passage* bearing on the Town of *Passage*; then steer past the Town for anchorage. In steering for *Duncannon Fort*, avoid the sand Banks which extend from both Shores: that on the Starboard side begins at *Bluff-head*, and extends more than half a mile from the shore, terminating at *Duncannon Fort*. Between the Fort and *Bluff head* is *Ballystraw Bay*. The opposite Sand is *Drumroe Bank*, which extends more than a mile from the shore, narrowing the passage abreast *Duncannon Fort*, to about a cable's length. The thwart mark, for knowing when you are in the narrowest part of the channel, is when *Newton Trees* and *Hogan's House* are in one; and the Two Lights in a line are the leading mark through it. Three quarters of a mile Northward of *Creden House*, is a Bar, which runs across E. N. E. and W. S. W. little more than a ship's length over; there are only 13 feet water on it, when Northerly winds prevail, but 26 when Southerly winds. The deepest water is nearly abreast the lights: on the bar you have from $2\frac{1}{2}$ to 9 fathoms water.

There is very good anchorage two or three miles above *Passage*, where the stream is much weaker than at *Passage*. In sailing to this place, avoid a shallow Spit of Sand which extends S. W. from the Point at *Buttermilk Castle*, about half over to the opposite side, with 9 feet of water on it. Avoid also a small Bank, which lies on the S. side of *Cheek Point*, two cables lengths from shore, with only 9 feet water on it, the least water, and half at tide 14 feet. If it is about low water, keep the middle between the Points, or rather nearest to *Buttermilk Point*, or keep in the rough stream of tide. Such vessels as draw not above 10 or 11 feet water may go up to the town of *Waterford*, where there are two fathoms about a ship's length from the quay. In sailing to or from the town of *Waterford*, the safest channel is on the N. side

of the little island, the other side has the deepest water, but the Channel is narrow and winding, and subject to eddy winds and tides.

FEATHARD is a small dry Harbour on the N. side of *Ingard Point*, fit for small vessels only. Between the Pier-heads there are 8 or 9 feet water at high water, spring tide, and 6 or 7 with neap tides. There is a rocky Ledge, that extends Eastward from the extremity of the Point about 2 cables lengths, to avoid which on the N. side going in, or out, keep an old Castle seen at the South end of the trees at the town of *Feathard*, or a small Summer-house; which is below these trees, on or open a sail's breadth with the Quay-head. There is a long rocky Shoal, about half a mile Eastward of *Ingard Point*, with 5 feet water on its W. end; a leading mark to it is the fore-mentioned Summer-house and old Castle in a line. SLADE BAY is N. E. of *Hook Tower* Light house, where vessels may anchor and be sheltered from Westerly and Northerly winds. The ground on the N. E. is foul. The mark for the best anchoring is the Pier Head and Castle in one opposite to a Stone-wall which runs out a little way from the shore, where you will have 5 fathoms water, and clean sandy ground. Between the Quay-heads there are 11 feet at high water, spring tide, and 8 or 9, neap tide. *Swinney-head* is the opposite Point to *Hook-Tower* of the Harbour of *Waterford*, to the Southward of which there are three small Islands called *Finn Kirt*, that are bold to.

On the shore of the *Saltee Island*, it is high water at half after four o'clock, and in *Waterford Harbour* at five and a half; but the stream of ebb along that coast does not begin till three hours after. At *Waterford Harbour* and the *Saltees*, the spring tides rise 10 feet, and neap tides 6. The principal stream of flood sets in here, from the S. W. and runs along the south side of the *Saltees*, and *Tusker Rock*, turning turning Northward through *St. George's Channel*. The ebb tide takes the contrary direction.

On the east and north sides of *Tusker* the spring tides, when strongest, run about 4 miles an hour, and neap tides $1\frac{1}{2}$. Between the *Saltees* and *Waterford Harbour*, the stream, when strongest; runs about one mile an hour; near the *Saltees*, about 2 miles an hour; and at the Point of *Hook* 3 miles an hour, making a rippling there, from the meeting of the opposite stream.

SECT. II. Tramore Bay—Rineshark Harbour— Dungarvan—Youghall, &c.

When the wind is off shore a vessel may stop a tide in the mouth of **TRAMORE BAY**, on clean sand, near the middle. This Bay is notorious for Shipwrecks, and ought to be carefully avoided. In hazy weather when the *Hook Tower* cannot be seen, this Bay has frequently been taken for the entrance of *Waterford Harbour*; and many ships have thereby been lost. Southerly winds, when they blow hard, bring a heavy sea into it, and the flood tide sets, with great velocity, towards *Rineshark Harbour*, which operating together, make too great a difficulty for a ship when so caught in the Bay, to get out again by plying to windward; and, in case of coming to an anchor, the ground is so foul and rocky, that the cables are frequently cut, and both ship and men lost. When thus forced on shore, the N. W. part of the Bay of *Tramore*, is the only place where there is a possibility of escaping the impending danger. The E. side of the Bay is so very shoal, and full of rocks, that ships are involved in terrible breakers at a considerable distance from shore.

RINESHARK HARBOUR, is a place where small vessels with a Pilot may go in, as there are 9 or 10 feet water, in the shallowest part of the Channel, at half tide; but it has a point of Sand, at the entrance, which no stranger ought to attempt, unless necessitated by the violence of the weather. If a vessel is embayed here in blowing weather, and cannot turn out, the best chance of saving the men is to run ashore any where, near the W. side of *Tramore Bay*, rather than attempt the Harbour.

In **DUNGARVAN HARBOUR**, vessels that draw not above 10 feet water may have good shelter, and clean sand to ground on, and ships of that draught must go in about high water with spring tide. The least water here is 3 feet. At the Quay there are 7 feet at high water, neap tide, and 9 with spring-tide; and to fall in with *Dungarvan Bay* keep *Cruach Hill* N. which is the westernmost, and most tapering of the *Dungarvan Mountains*.—In the mouth of this Bay there are two Rocks always above water, the largest is *Carrickapene*, which lies near the middle; the Channel is on either side of this Rock, keeping a birth of at least half a cable's length. Off the smallest Rock, there lies a Ledge which extends to the shore of *Balincourty*. The other Rock is *the Gainers*, on which the least water is 2 feet; it lies $\frac{1}{2}$ a mile to the northward of *Helwick-head* $\frac{1}{4}$ of a mile long from East to West to avoid it on the north side, keep the castle at the Abby of *Dungarvan* N. W. by N. or the Abby on the *Shoulder*, or highest part of a hill which is about 2 miles N. W. by N. of *Dungarvan*: or you may avoid that rock

by keeping within two cables length of *Carrickapene*; or one third from it, and two thirds from *Helwick-head*. There is a dangerous Ridge of Sand, that dries with spring tides only, which extends Southward along *Ballinacourty* Point, and makes the Channel very narrow; to sail between it and the shore, you are to keep about half a cable's length from highwater-mark; or keep *Ryland's Turret* N. W. by N. and in a line with the sharpest top of *Knockmeldown Mountain*. —

The proper place to wait the tide, to sail up to the Harbour of *Dungarvan*, is off the House of *Ballinacourty*, about half a cable's length from the shore; for there is the best holding ground; but it should not be attempted before half flood. At which time steer for *Ballinacourty* Point, and when you are near the House, keep half a cable from that shore; or keep *Ryland's Turret* on the sharpest top of *Knockmeldown*, till you pass the Point, then steer W. by N. till *Ryland's Turret* bears on the top *Cruach-hill*, when you are to steer N. W. by N. for *Coneygar* Point; or you may keep the old Castle at *Dungarvan Quay* on the highest top of *Knockmeldown Mountain*, and drop anchor off the middle of the town.

Youghall Harbour may be entered by ships that draw not above 12 feet water, and they will ride afloat at all times of the tide, off the middle of the town. There is a shallow Bank of Sand, or Bar, which shuts up the mouth of it; it has never less than four feet of water on it, and extends above a mile Southward from the entrance. There is always a rough sea on this Bar, when the wind is on shore, or against the tide; At neap-tide, high water, there are 13 feet of water on the Bar. The Bank begins when *Cable Island* bears S. W. To fall in with *Youghall Harbour* from the S. keep *Knockmeldown Mountain* N. by W; the properest place to wait the tide, for going over the Bar, is on the S. side of it in 3 or 4 fathoms water; the mouth of the Harbour N. or off *Whiting Bay* in 5 or 6 fathoms water; or on the N. side of *Cable Island* in 4 or 5 fathoms water, about two cables length from shore.

There is a stopping place to the East side of *Ardmore Head*, a mile, or half a mile from the shore in *Whiting Bay*; or off the mouth of *Youghall Harbour*; or on the north side of *Cable Island*, at $\frac{1}{4}$ of a mile distance, in 5 fathoms at low water.

Between *Waterford* and *Youghall*, it is high water, on fall and change days, at 5 o'clock; but the stream out of the coast does not turn till 3 hours later. Ordinary spring tides rise 11 feet perpendicular, and neap tides 6 or 7. The principal stream sets in from the Westward, and within 6 miles of the shore, does not run about a mile an hour when stronger, except near *Headlands*, or in narrow channels.

SECT. III. Ballycotton Bay — Corke — Oyster Haven — Kinsale — Courtmacsherry Harbour — Clonekilty Harbour.

On this part of the coast it is high water in the Bays and Harbours, on full and change days, at half an hour past four o'clock. The spring tides rise 11 feet perpendicular; neap tides 6 or 7. The flood sets in from the W. and the ebb from the E. and within a league of the shore, spring tides, when strongest, run not above one mile an hour, except near the Headlands Westward of *Kinsale*, where they run about three miles an hour, when strongest.

The *Rocks* and *Shoals* on this coast are, viz. Between the *Ballycotton* Islands, in the middle, there is a Rock that dries with low spring tide only.—About a mile West of *Ballycotton* Islands, there is another Rock, called the *SMITHS*, which dries also at low spring tide only. It is avoided on the S. side by keeping half a mile from the shore; or by keeping *Cable* Island out by *Ballycotton* Island.—*DANT'S* Rock lies about 5 miles without the entry to *Cork* Harbour, near the W. side, three quarters of a mile from the shore, and is about half a cable's length long; the least water on it is eleven feet. From hence *Roberts's Head* bears N. W. by N. and *Roberts's Cove* N. by W. $\frac{1}{4}$ W. It is avoided on the South side by keeping *Flat Head* a ship's length out of *Ranis Head*: On the East side you avoid it by keeping *Cork Head* N. and on the N. side by keeping *Roberts's Head* N. W. To sail between it and the land, you must keep within half a mile of the shore.—Near the middle of *Courtmacsherry Bay*, are the *BARRELS*; the Southmost of these two Rocks is the smallest, and dries about low-water, but has a sufficient depth quite round, half a cable's length from it; the other Rock is larger, and lies about half a mile Northward of the other, nearly seen above water, being dry only with extraordinary low spring-tides. At the Southernmost *Barrel Rock* the extremity of *Old Head* of *Kinsale* bears S. E. by E. and the *Horse Rock*, (which is always above water) W. by N. These *Barrel Rocks* are avoided on the West side by keeping within a mile and a half of the shore on the West side of the Bay. The *HORSE* Rock is deep on all sides, a ship's length from it.—In the middle of *Downworly Bay*, (which is half way between the *Seven Heads* and the entrance to *Clonekilty*) there is a small Rock that dries about half ebb.—The *DULY* Rock lies about half a mile W. S. W. from *Gal-ly Head*, and dries about half ebb.

The *Stopping Places* on this coast are, as follow. viz. On the W. side of *Ballycotton Bay*, you may stop, with a W. or S. W. wind, about 2 or 3 cables length North of the Islands, with from 3 to 5 fathoms water.

— In the mouth of the Harbour of *Cork* with a W. or N. W. wind, about a quarter of a mile from the W. side, between *Cork head* and *Ringabella Creek*, having from 9 to 6 fathoms water.— In the Bay, half way between *Old Head of Kinsale* and the mouth of the Harbour, with winds at the Westerly quarter, about two cables length from the shore, and have from 2 to 5 fathoms of water.— On the W. side of *Courtmacsherry Bay* you may stop with Westerly winds, either off the Officers' Houses S. W. from *Horse Rock*, on 10 or 12 fathoms water, or on the N. side of *Horse Rock*, and have 4 or 5 fathoms.— When the wind is off shore, you may stop in the middle of *Clonekilty Bay*, and have 10 or 12 fathoms of water.

From the *Land's End* to *CORKE* the course is N. W. and the distance 42 leagues. To fall in with the Harbour of *Cork* when coming from the Southward keep *Knockmeldown Hill* a point or two Eastward of N. till you see the *Old Head of Kinsale*, which is a bluff Point of Land, with a Light-house on it; from which it lies E. by N. about 4 leagues. When you are off the Harbour, *Roche's Tower*, or the Light-house, is on the E. Point of the Entrance.

Large ships, when going in at low water, must be careful to avoid *Harbour Rock*, which lies a little within the *Stag Rocks* on the E. side of the entrance, N. W. by W. from *Roche's Tower*, and has only 15 feet water on it, at low water spring tides. A quarter of a mile further lies *Turbot Bank*, and on the East side of the Channel, with from 12 to 16 feet water on it at low water on the N. end, extending N. W. and S. E. To avoid these Rocks on the East side keep within 2 cables length of the shore on the East side; or keep *Dog's Nose* N. by W. or keep *Dog's Nose Point* a little to the Westward of *Cuskenny* (or *Wiskenny*) Mill in *Great Island*. *Dog's Nose*, just on *Cuskenny Mill*, leads on *Harbour Rock*; and open of it leads along the W. side of it. By keeping the *Cow Rock* on *Poor Head* you avoid it along the S. side. *Turbot Bank* is avoided by keeping nearer the land on the E. side than on the W. side of the entry. Between the *Dog's Nose* and the W. shore there are four and five fathoms water.— The *SPIT*, or *Spike Sand*, lies on the W. side of the Channel, on which are two small Islands. It extends above one mile E. S. E. from *Hawlbowling Island*, and shelters the anchorage at *Cove*; and begins to dry on the N. side at half ebb. There are two Perches or Buoys that point out this Bank, one on the E. end, and the other on the edge of the N. side opposite to *Cove*. *Spike Island* bears N. by W. from *Ramshead*, and must be kept well open on your larboard bow. The Buoy on the N. E. of this Sand is called the *Spit Buoy*, to which you must give the birth of a cable's length. In going from *Dog's Nose* towards *Cove* keep *Cuskenny Mill* N. in order to avoid the Shoal that extends in some places a mile N. N. W. from the E. shore, and a Rock that lies N. W. off *Corke Beg*, which appears at half ebb; keep *Dog's Nose Point* S. by W. or by sailing right on the Eastmost part of the Fort. —

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In going from *Cove* to *Passage*, give the South side of the *Black Point* a birth of about half a cable's length; and along the West side of *Black Point* keep above a cable's length from that shore, to avoid the Sand; or sail Westward from *Hawlbowlung Island*, till you see *Ronan's Point* in the Channel of *Passage*, when you are to steer Northward along the West side of that Channel for the anchorage. Between *Passage* and *Horse-head* there is a Sand extending above a cable's length Eastward from *Clay Cliff*, on which there are but 6 feet water at low spring tide. The End of it is avoided when *Dunkettle House* bears N. N. W. and on a conspicuous Grove of Trees on the Top of a Hill above the House. In riding near this Sand, *Belvelly Castle*, should either be fairly shut out, or shut in by *Ronan's Point*, the Castle and Point in one leads right on the Point of the Sand. The best place for large ships to anchor is off the Garrison, in 5 to 8 fathoms water. Merchant ships may ride off the *Cove* in smoother water and less tide. They may also go up further in the Harbour off *Passage*, and ride any where between the first houses and *Ronan's Point*. Vessels which draw only 10 or 11 feet water may, on spring tides, go up to *Black Rock*, or to the Town of *Corke*. Off the *Old Head*, in the Offing, the tide flows on the full and change days, at four o'clock, and the stream sets nearly along shore.

Within the Harbour of *Corke*, on the West side is *Cross Haven*, a small creek, opposite to *Dog's Nose*, where vessels may ride in 10 or 12 feet water, and in good shelter. The Channel round the Point, going in, is very crooked, for which no direction can be formed, but the best way is to follow the ripple of the tide, which is for the most part visible, or to go in about high water, when a vessel that draws ten or twelve feet water, will pass over all.

Two miles eastward of *Kinsale*, is OYSTER HAVEN, a creek where small vessels may ride in good shelter with 9 feet of water at least; and where there is nothing to fear going in, on either side of *Sovereign's Isles*. On the W. side of *Keneda Point* it shoals near half a cable's length from the high-water mark, which should therefore have a moderate birth. The best place to anchor in here is on the West side, in the mouth of that Branch which runs Westward.

KINSALE is a very safe Harbour, and capable of very large ships; but at low water, spring tide, such as draw above 11 feet water, must stop in the mouth of the Harbour an hour or two, until the water has risen a little, for there are only twelve feet water on the bar, at low spring tide. You are over the Bar going in, when *Charles Fort* bears East. The most common anchorage is off *Cove*, in four or five fathoms water, a little more than a cable's length from the shore, and is not above a cable's length wide, till you are near the Town of *Kinsale*, where it is broader. There is a light kept on the *Old Head* of *Kinsale* and another in *Charles Fort*, within the Harbour, to direct the ships in the night time.—To sail in with the Harbour from the Southward, keep *Knockmoldown Hill* N. E. till you see the *Old Head*.

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The only Rocks or Shoals near the Harbour of *Kinsale* are *Bulman Rocks*, which are a little more than a cable's length S. S. W. from *Hangman's Point*, on the E. side of the entrance, on which there are at least four feet, at low spring tide. To avoid on the South side keep *Oyster-haven Rock* open of *Forward Point*. To clear it on the West side keep *Charles Fort* in sight by *Hangman's Point*; or, the *Block-house* at *Old Fort* its own length in by *Money Point*. To sail between *Bullman* and *Hangman's Point*, keep the *Sovereign Isles* a boat's length open of *Forward Point*.

To sail into *Kinsale Harbour* in the night time, keep the Light of *Old Head* S. W. by S. and the Light of *Charles Fort* N. N. E. or, when *Old Head Light* is right astern, keep the Light of *Charles Fort* on the lar-board bow.

IN *COURTMACSHERRY HARBOUR* small vessels may lie very safe near the Quay, in two fathoms water at least, but a vessel that draws 8 or 9 feet water, must have half flood to go in, because it is shallow off the Point next the Quay. About a quarter of a mile east of it a vessel may stop in $1\frac{1}{2}$, or 2 fathoms water, in a small bight formed by a perpendicular clay cliff, when one anchor must lie on the shore, because the Channel is narrow, and the tide rapid in it. The Channel from the extremity of *Courtmacsherry Point* into these anchorages, is close along shore, not above one third of a cable's length from it.

CLONEKILTY HARBOUR is fit only for small vessels, and is very dangerous in failing in, or out, when the wind is at the Southerly quarter, for then near the entrance the sea breaks all over, and the Channel cannot be distinguished. There are but 2 feet water on the Bar, at low spring-tide, so that no vessel ought to run for this Harbour in blowing weather, without great necessity, and with three quarters flood. The entrance is on the E. side of the Island, and the Channel near the Main. Avoid a Rock on the North side of the *Point of Ring*, which extends to the edge of the Channel. Anchor near the Main opposite the E. end of the Island, in the bight next above the narrow, or on the N. side of the Island. The other Channel along *Mucker* is fit for boats only.

SECT. IV. Gally Head, called also Dundedy Head—Ross, Glandere, Castlehaven, Baltimore, Long Island, and Scull Harbours—Cape Clear.

It is high water on this coast, on the full and change days, about four o'clock, but the streams of ebb and flood off the coast do not run Westward or Eastward till three hours after high water or low water on the shore. Spring tides rise eleven feet perpendicular, and neap tides 6 or 7. The stream of flood sets in from the Westward, and the stream of ebb from the Eastward. Above a mile from the shore
spring

spring tides, when strongest, run not above one mile an hour, near the Headlands they run two.

Duly Rock is the only one which is always above water; it is remarkable, and lies about half a mile Westward of *Gally Head*, dry about, half ebb.

The stopping places are as follows, viz. In moderate weather, when the wind is off shore, you may stop on the West side of *Gally*, between it and *Ross* Harbour, and several miles West of *Ross* on clean ground, a mile or half a mile from the shore; or in the Bay on the East side of *Toe-head*; or in the Bay on the West side of *Toe-head*; or in *Barlog-bay* half a mile from shore.

ROSS HARBOUR is three or four miles Northward of *Gally Head*, and has a difficult entrance but in very moderate weather.

GLANDORE HARBOUR has 4 or 5 feet water, at low spring tide, with the ground soft ooze, and you may lie very safe near the Head of the Harbour off *Ballincalla*. There are four small Rocks, called the *Dangers*, about a mile Northward from the mouth of this Harbour.

CASTLEHAVEN HARBOUR is safe for vessels that draw not above 10 feet water. When it does not blow hard from the South or S. E. you may ride in the Bay, at the town of *Castlehaven*, in 4 or 5 fathoms water.

BALTIMORE HARBOUR is convenient for ships bound Eastward or Westward, and small ships are quite sheltered there in nine or ten feet water at least, two or three cables lengths N. W. from the town of *Baltimore*. In this Harbour is *Loo Rock*, about half a cable's length N. W. from the high cliff, on which is a turret on the starboard hand going in. It is to be avoided by keeping near the middle of the entrance. The *Perch Rock* lies N. N. E. from the turret on the cliff, with a buoy on it.

LONG ISLAND HARBOUR is well sheltered, of easy access, has good ground, and will hold large ships, avoiding a spit of sand, about half a mile from the East end of the Island, which extends above half over the Channel.

SCULL HARBOUR is well sheltered, ground good, $3\frac{1}{2}$ fathoms water, and only one Rock to avoid coming in.

There are several other Ports among the Islands that lie in the neighbourhood of *Cape Clear*, where vessels may run and find safe anchorage in time of distress.

C H A P. XVII.

From Cape Clear to the Shannon.

SECT. I. Crook Haven—Dunmanus Bay—Bantry Bay—Bear Haven Harbour.

A Vessel, in moderate weather, may stop any where on the north side of *Cape Clear Island*, above a mile from shore; or South of *Crook-Haven*; also in the mouth of *Dunmanus Bay*; in the mouth of *Bantry Bay*; between *Crow Head* and *Dursey Island*; or near the Sound of *Dursey*, Eastward of the small Island, where there is a pretty strong tide.

CROOK HAVEN is narrow, but good ground, well sheltered, and with depth of water sufficient for large ships.

DUNMANUS BAY has deep water, and clean ground, till you go up as far as *Manin Island*, but is not safe anchorage in winter time. A quarter of a mile West from the N. W. Point of *Carberry Island*, is a Rocky Shoal, narrow from North to South, with only 8 feet water. Another Shoal extends above half way to *Carberry*, on which is only 5 or 6 feet water. On the North of *Four-mile-water Creek*, is *Carrignaronky Rock*, dry about low water. Between *Furze Island* and *Horse Island* is a rocky Ledge that extends quite over, and is covered about an hour before high water. *Sugach* is a blind Rock, below *Dunkelly Houses*, with fix feet water.

BANTRY BAY is large, safe, and commodious, for ships of any size. The best anchorage for large vessels is at the east end of *Whiddy Island*, either on the N. or S. side of the *Horse Island*, in from 6 to 10 fathoms. Its shoals about a cable's length N. W. from *Horse Island*, which must be attended to, in dropping anchor in that neighbourhood.

BEAR-HAVEN HARBOUR is a good, large, well sheltered Harbour, with sufficient depth for the largest ships. In the West entrance there are two Rocks to be avoided, one on the Starboard hand, always below water,

water, the other on the Larboard side off *Dunbuy Bay*. The *Colt Rock* lies one third from *Dunbuy*, and two thirds from *Bear Island*. In coming in along the East end of the Island, the *Coranamadry Rocks* are the only danger, about half a mile East of the East point of the Island.

SECT. II. Dursey Island—Kenmare River—Valentia Harbour.

In moderate weather, if the wind be a quarter Easterly, vessels may stop any where, between *Dursey Island* and *Crow Head*. In sailing past *Rossmore Island*, avoid the *Maiden Rock*; it lies between *Ardea* and *Rossmere*, at which *Ardea Castle* bears S. S. E. $\frac{1}{2}$ E. and *Ormond's Isle* E. $\frac{1}{2}$ S. In summer time a vessel may stop on the North side of *Balliniskellick's Bay*; and when the wind is off shore in the bay of *Killimlock* between *Puffin's Island* and *Brey-head* in *Valentia Island*.

KENMARE RIVER is properly an arm of the sea, has deep water and clean ground, and the best harbours in it are *Sneem*, *Ardgrume*, *Kilmichaelog*, and *Danish Island*.

VALENTIA HARBOUR is good ground, well sheltered and capable of receiving the largest ships. In the East entrance there is a rock nearest the West side, a quarter of a mile Southward of *Cromwell's Fort*, and is to be taken on the starboard hand going in. Near the West end of *Begginish Island*, over against *Cromwell's Fort*, a quarter of a cable's length farther out than the other rocks; and there is a gravelly beach, which extends from the *Foot Point* of *Valentia* Eastward towards *Rinaard Point* about half over. The West entrance of *Valentia Harbour* is clear of Shoals as far as *Portmagee*, after which there are shoals that require a skilful pilot.

SECT. III. Ventry and Dingle Harbours—Castlemain Harbour—Smerwick Bay—Tralee Harbour, &c.

The stream of flood along the *Basket Isle*, sets in from the S. S. W. and ebbs from the N. N. E. Spring tides when strongest, in the sounds of the *Blaskets*, run not above 2 miles an hour. In *Dingle Bay* not above half a mile an hour, till near the mouth of *Castlemain Harbour*, where it runs 2 miles an hour. From the *Blaskets* Eastward to the *Shannon*, the stream of tide is scarce sensible.

VENTRY HARBOUR is of easy access, clean ground, and capable of the largest ships; safe in summer, but dangerous in winter when the squalls of wind come off the mountains.

DINGLE HARBOUR is fit for small vessels only, and has a ridge of rocks which extend about half over from *Lach Point* to *Rinbeg*.

CASTLEMAIN HARBOUR is of difficult access, having a bar across the mouth of the entrance, on which there are but 9 feet water, at low spring tide, and a spit of sand on each side the channel, which extends 2 miles, which have neither Buoy or Perch on them. To sail over this Bay it is necessary to have a pilot, for there are no landmarks intelligible to a stranger.

SMERWICK BAY is not safe except in summer, being scattered with rocks and exposed to N. and N. W. winds.

TRALEE HARBOUR is Eastward of the Easternmost of the two *Samphire Islands*, in the channel of the River *Shannon*. Here the ground holds well, and the islands shelter the ships from the violence of the sea; but the channel is narrow, and a vessel cannot ride with more than half a cable, except when the wind is East or West.

SECT. IV. River Shannon.

The River SHANNON is a river of easy access, where fleets of the largest ships may ride safely in all weathers; and the light kept on *Loop Head* at the mouth of the river, may be seen four leagues off.

At a distance from the land, its place on the coast may be distinguished readily by the *Blasket Islands*, and by the *Brandon Mountains*, which may be perceived 15 leagues off. There are few parts in this river above *Kilcadraan Point*, where it begins to narrow, but a vessel may stop on clean ground and in good shelter. The best places, for large ships to ride in, are *Labisheda Bay*, in *Rien parish*, and on the East side of *Rinellan Point*, as far up as *Foyn's Island*.

It is high water in the mouth of *Shannon*, on full and change days, at three quarters after three; at *Foyn's Island* at five, and near *Limerick* at six. At *Carrigbelt*, and as far up as *Foyn's Island*, ordinary spring tides rise 11 or 12 feet perpendicular, and neap tides 6 or 7. At *Foyn's Island*, and Eastward to *Limerick* spring tides rise 16 feet perpendicular, and neap tides one and $\frac{1}{2}$. In other parts of the river that are not within Bays spring tides run about two miles an hour, and neap tides less than one.

The *Bar of Beal* in the *Shannon* extends about half a mile Northward from *Beal Point*; part of which dries with spring tides, about a quarter of a mile from the shore. The deep Channel near the outer edge of it, may be distinguished by a ripple, or rough sea, except at slack water. On the outer edge of it, 3 and half fathoms is the least water; in the ripple near the edge of the shoal there are from 14 to 18 fathoms. To avoid this shoal keep *Ray Hill* shut in a little by

Kilcadraan

Kilcadraan Head or Cliff.—*Binanna* is a rocky shoal that extends South three quarters of a mile from the S. end of *Scattery Island*, but there is a channel sufficiently deep between it and that island. On the West side of *Scattery Island* it shoals about half a cable's length from the shore. On the North side of the same isle is a rock, and a sand bank that reaches from the East end of that rock to the N. E. point of the island. On the East side opposite *Hog Island* is a small Rock, a cable's length from shore, dry with low spring tides. There is a spit of sand on the East side of *Scattery*, extending S. S. E. $\frac{1}{2}$ E. from the point, with the least water one fathom. This must be attended to when ships anchor near this part of the island. *Carrickvalaan* rock lies about a cable's length from the shore of *Kilkerran*, dry with spring tides. There are 2 fathoms water between it and the shore of *Kilkerran*.

About a quarter of a mile East of the North point of *Achnish Island* is a rock called *Carrickaginan*, dry at half ebb, and other rocks half a mile East of the little Island next *Achnish*. *Carrickaronki*, or the *Seal Rocks*, lie about a mile E. by N. of the North point of *Achnish*, and are dry at about two hours ebb.—The *Horse Rock* lies near a mile South of the *Seal Rocks*, covered only at spring tides.—There are four rocks on the long sand bank on the N. side of the channel, between *Beb Castle* and *Sod Island*. The Westernmost is called *Carrickaclouish*, and is dry at half ebb. The West end of the sand on which these rocks lie is always below water, and the depth is from 2 to 6 feet. The extremity of this part of the sand bears N. E. from *Beb Castle*. S. E. from *Carrickaclouish Rock*, in the middle of the channel, is a small rocky shoal, not half a cable's length long from North to South, with 4 feet water.—*Bridge Rocks* lie a cable's length North of *Reinmylan Point*, dry at half ebb.—There is a rock at 4 hours ebb, near half a mile East of *Sod Island*.—There are several rocks and shoals between *Key Island* and the town of LIMERICK; a little East of *Bush Island*, and the *Whelps* and *Scarlets* off *Newtown Point*; but no description can supply the place of a pilot in this part; and as it is fit only for small vessels, it will be necessary to have such as are skilful in the channel. The anchoring places in the *Shannon* are *Carrighbault*, *Scattery Road*, *Oyster Hole*, *Tarbut*, *Labbasbeda*, one near *Foyn's Island*, and in the Port of Limerick.

F I N I S.

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